

# SOAP AND CHEMICAL SPECIALTIES

NOVEMBER 1960



Elective president of Canadian Manufacturers of Chemical Specialties Assn., Oct. 25, at GMCS' third annual meeting in Montreal is Reginald L. Jones, vice-president, manufacturing, and director, Colgate-Palmolive, Ltd., Toronto.

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First 40 Years of DuBois Chemicals  
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More reactive caustic potash helps produce more soluble reaction products and less viscous solutions.

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Please send data on recommended formula for liquid cleanser to be used for \_\_\_\_\_

Please have representative call.

Name \_\_\_\_\_

Position \_\_\_\_\_

Company \_\_\_\_\_

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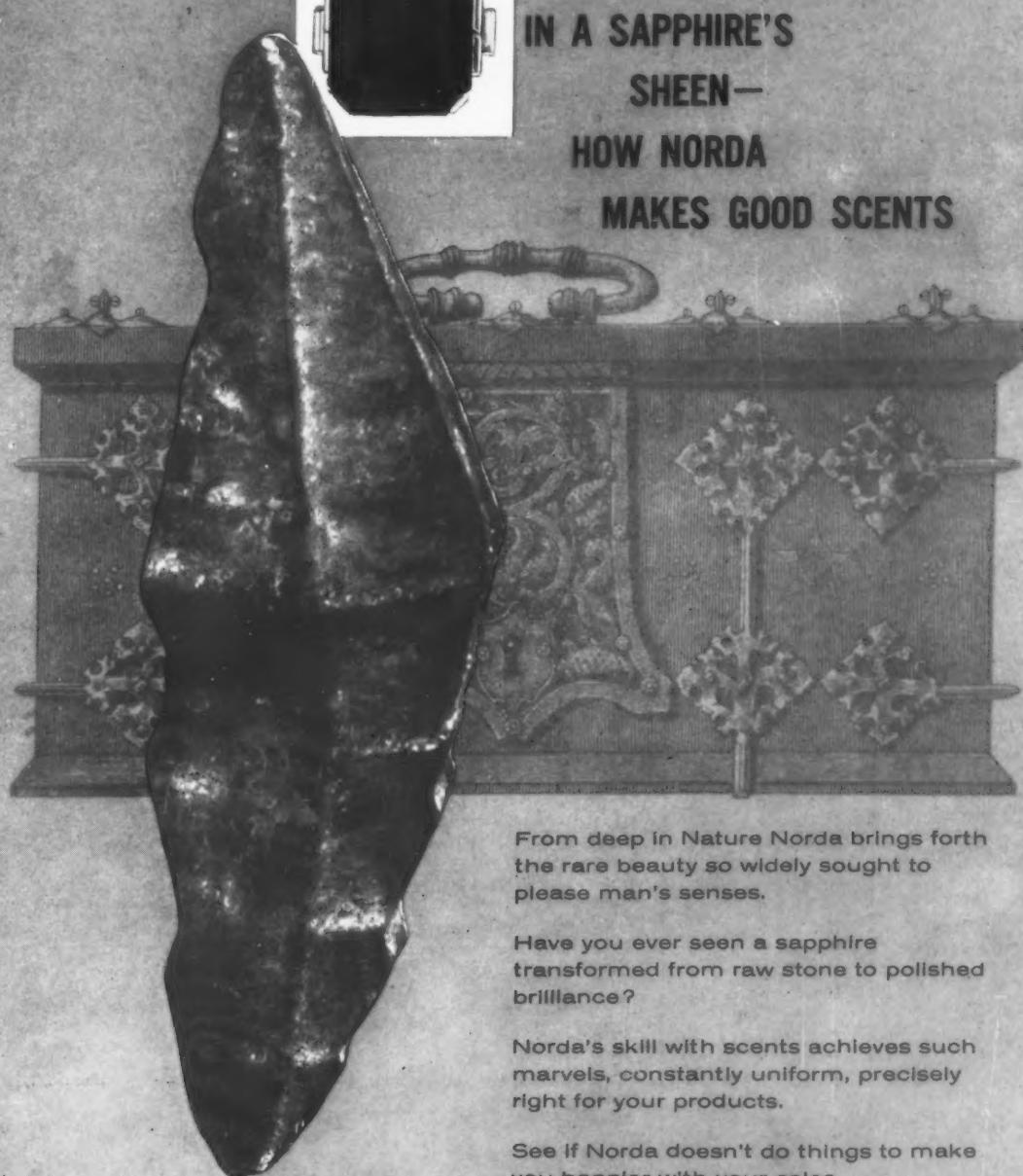
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BY  
**ONYX**

PRODUCT		DESCRIPTION	PERCENT ACTIVE	PHYSICAL STATE	APPLICATION
QUATERNARIES	Ammonyx 4	Stearyl dimethylbenzyl ammonium chloride	25	Paste	Cosmetic anti-static and conditioning agents
	Ammonyx 4002		100	Powder	
	Ammonyx CO	Cetyl dimethyl amine oxide	20	Liquid	Wetting, emulsifying, Acid & alkali stable
	BTC 2125	Alkyl dimethyl ethylbenzyl ammonium chlorides	50	Liquid	Disinfectant, deodorant, germicide, fungicide—High hard water tolerance levels — 750 ppm
	Isothan Q-75	Lauryl isoquinolinium bromide	75	Liquid	Fungicide—dandruff control
	Onyxide Series	Alkenyl dimethyl ethyl ammonium bromide	75	Paste	Algicide
	Ammonyx 781	Alkyl methylisoquinolinium chloride	50	Liquid	Biocidal agent industrial water treatment
	BTC 1100	Alkyl dimethyl naphthal ammonium chloride	100	Powder	Broad spectrum biocidal agent—hard water tolerance level 1100 ppm
NON-IONICS	Neutronyx 600 Series	Alkyphenol polyglycol ether containing from 4 to 30 moles ethylene oxide	100	Liquid	Detergent, wetting, emulsifying, dispersing
	Onyx-ol 336 & Onyx-ol 345	Lauric acid diethanolamine condensate	97	Liquid	Foam stabilizer, detergent, wetting, dispersing and thickener
	Onyx-ol 368	Lauric acid isopropanolamine condensate	97	Powder	Foam stabilizer
	Super Amide Series	High activity diethanolamine condensates	75-90 (as amide)	Liquid to solid	Foam stabilizers, emulsifiers and thickeners
SULFONATED OILS LAURYL SULFATES	Maprofix ES	Castor, soya, sperm, tallow	Various	Liquid	Detergent, dispersing
	Maprofix LK	Sodium lauryl ether sulfate	28	Liquid	
	Maprofix WA Series	Sodium lauryl sulfate	90	Powder	
	Maprofix 563	Sodium lauryl sulfate	30	Liquid to paste	
	Maprofix NH	Ammonium lauryl sulfate	99	Powder	
	Maprofix TLS Series	Triethanolamine lauryl sulfate	30	Liquid	Detergent, wetting, foaming and dispersing agents for industrial, cosmetic and pharmaceutical applications, pigment and latex dispersions
	Aston 108 & Aston 123	Thermosetting polyamine	40-75	Liquid to paste	
ANTI-STATIC AGENTS	Aston AP	Cationic polyamine	20	Liquid	Durable anti-static agents
			50-100	Liquid	Anti-static agents, water and solvent soluble



ONYX Chemical Corporation • 190 Warren St., Jersey City 2, N. J.

Vol. XXXVI, No. 11, Nov., 1960

Reginald L. Jones, who was elected last month as president of the Canadian Manufacturers of Chemical Specialties Assn., is a charter member of CMCS. He has served as a director, vice-president and chairman of the Soaps and Detergents Division. A native of England, he has been with Colgate-Palmolive, Ltd., Toronto, since 1920. Since February, 1958, he has been vice-president in charge of manufacturing and a director.



MEMBER



SINCE 1934

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Don't overlook the opportunity to get optimum performance for your detergents and cleaning compounds at a minimum cost with the right silicate content. To get the best results in each case we shall be glad to discuss evidence from studies now being made at our research laboratories.



NAME	% RATIO %Na <sub>2</sub> O : %SiO <sub>2</sub>	%Na <sub>2</sub> O	%SiO <sub>2</sub>	BAUME 68°F.
N	1:3.22 *	8.90	28.7	41.0°
STAR	1:2.50	10.60	26.5	42.0°
RU	1:2.40	13.85	33.2	52°
C	1:2.00	18.0	36.0	59.3°
SS-C PWD	1:2.0	32.70	65.4	Anhydrous Powder
METSO GRANULAR	1:1*	29.50	28.7	Pentahydrate Metasilicate
METSO ANHYDROUS	1:1*	51.00	46.5	Anhydrous Metasilicate
KASIL #1	%K <sub>2</sub> O : %SiO <sub>2</sub>	%K <sub>2</sub> O	%SiO <sub>2</sub>	
KASIL 88	1:2.50	8.30	20.8	29.8°
	1:2.20	9.05	19.9	30.0°

\*Molecular Ratio

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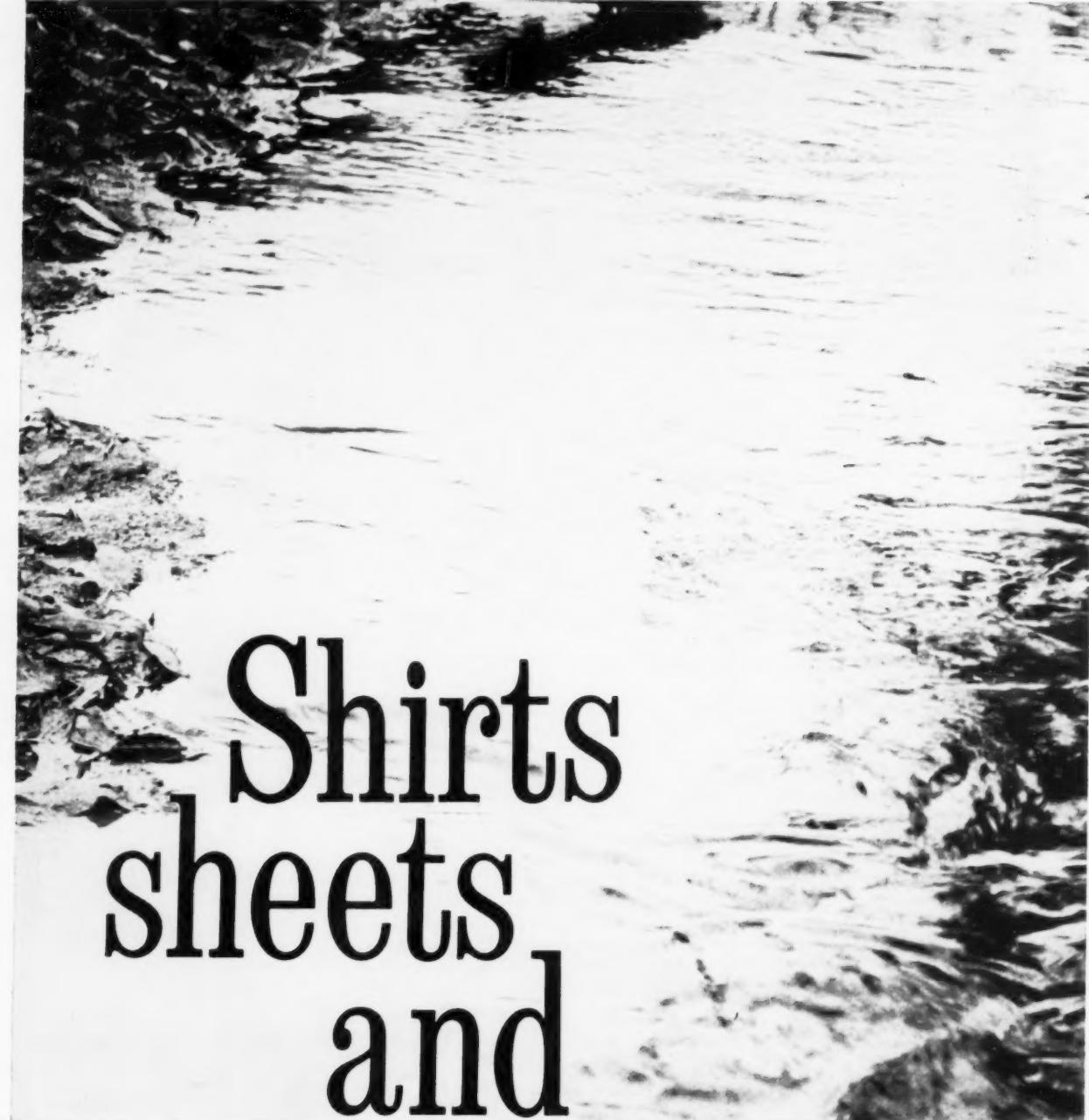
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K <sub>2</sub> O .....	56.9%
P <sub>2</sub> O <sub>5</sub> .....	42.9%
Total H <sub>2</sub> O insoluble .....	0.01%
pH of 1% solution .....	10.

Used as a sequestering agent, water softener, dispersion and emulsifying agent in heavy-duty liquid detergents.

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CANDI-WAX #6000

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### Beauty and Durability

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Anti-slip, or reasonable safety underfoot, does not mean that the qualities of beauty and protection need be sacrificed. The proper balance—a wax film which is not excessively slippery, yet which is not tacky and doesn't collect dirt readily—gives the performance that answers the foremost original reason for use of a floor wax—beauty and protection.

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Frequent damp mopping or wet traffic can make water resistance very important. Overdoing this quality when no problem exists out of the ordinary, simply increases the difficulty of complete removal or applying multiple coats. Removability must be considered as important as water-resistance under most normal conditions.

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The percentage of solid content is not nearly as important as the quality of the solids. Good quality indicates 12% of solids as the answer for most well planned maintenance programs. Two applications of 12% gives better results than one of 18%. "Washed out" floors and other special problems maintain better when more concentrated waxes are used. Over-waxing and resultant greater difficulty in removal for periodic maintenance should be avoided.

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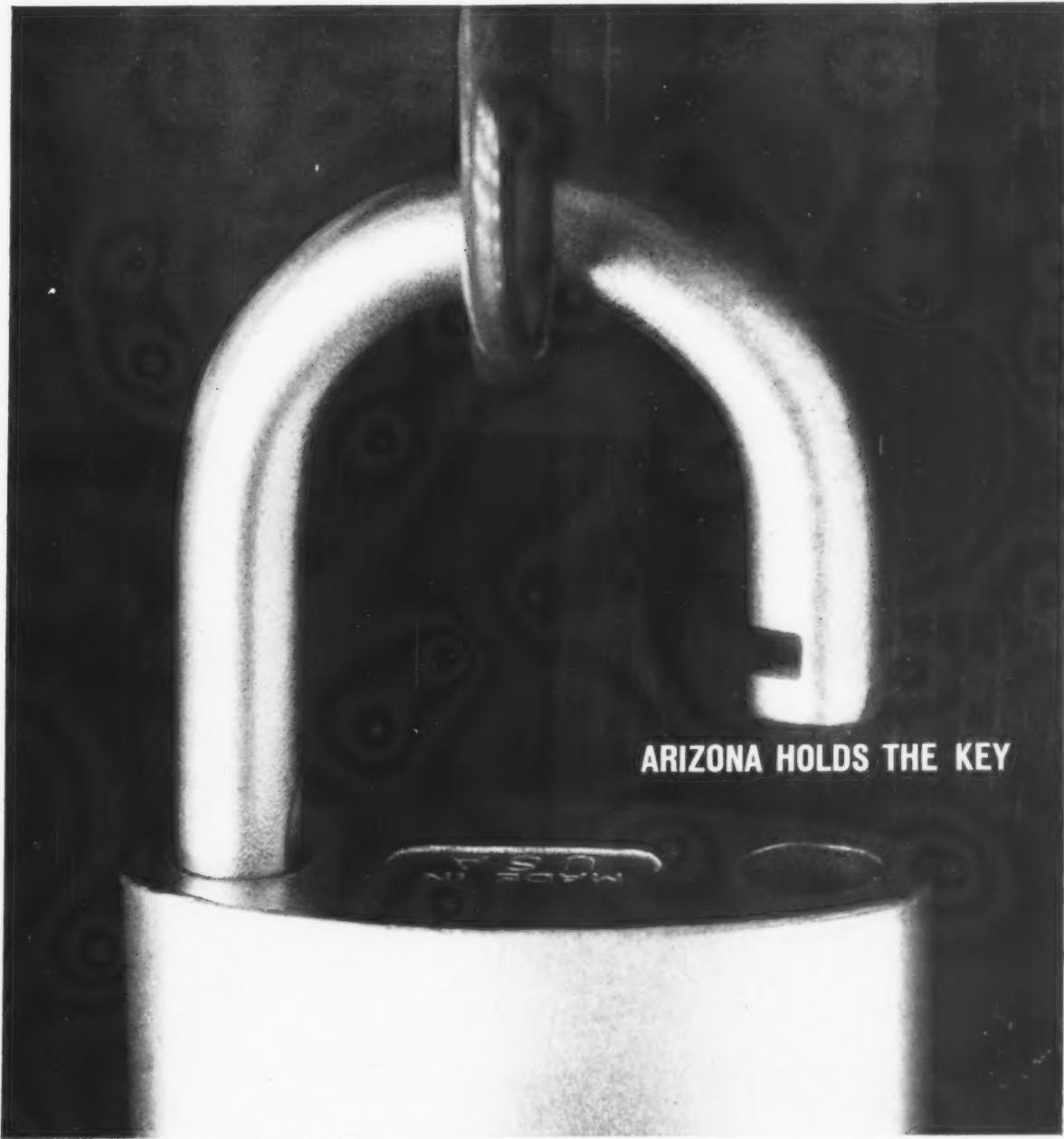
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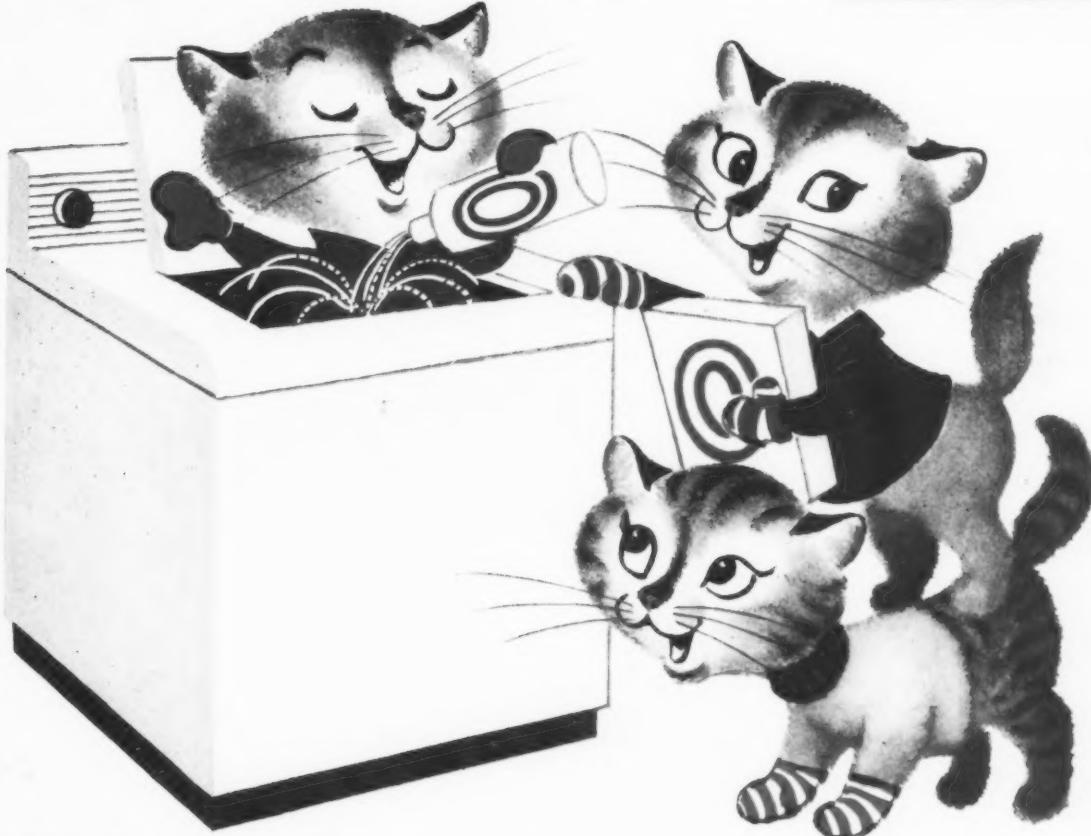
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# ALKANE



\* Oronite's trademark for its detergent intermediate.



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6864

# AFTER CLOSING---

## Davies-Young Adds Rep.

Julian Gingras, Jr. has been appointed sales promotional representative for the Davies-Young Soap Co., Dayton, O., it was an-



Julian Gingras, Jr.

nounced recently by R. H. Gildner, sales manager.

Mr. Gingras, a graduate of the University of Florida, will work with the authorized distributors of "Buckeye" products, in Georgia, Tennessee, and northern Alabama.

— ★ —

## Standard Oil Consolidates

California Chemical Co. is the new name for the agricultural and industrial chemical operations of Standard Oil Co. of California. The new unit will coordinate and manage the manufacturing and marketing affairs previously handled by California Spray-Chemical Corp. and Oronite Chemical Co., and all of Standard's foreign chemical affiliations and marketing offices.

Calspray and Oronite become the Ortho and Oronite divisions of California Chemical.

Fred Powell, formerly vice president of manufacturing for Standard's Western Operations, Inc., was named president of California Chemical several months

ago. H. J. Grady, formerly president of Calspray becomes president of the Ortho division, and T. G. Hughes, president of Oronite Chemical for many years, becomes president of that division.

Mr. Powell stated that Ortho would continue to manufacture insecticides, fungicides, and agricultural and home gardening chemicals, while Oronite would continue to supply its detergent alkylates and other chemical intermediates and products.

— ★ —

## New Cowles Detergent

"Launtex," a new liquid industrial detergent, has been introduced by Cowles Chemical Co., Cleveland, O. The company claims special cleaning properties as a result of combining several detergent "oils" of different molecular structure. Good performance properties over a wide range of use conditions are claimed for the product by W. J. Schleicher, manager, laundry products department. Quart cans packed 24 to a case and 420 pound (54 gal.) drums are available.

"Launtex" is recommended to shirt laundries for removal of collar and cuff soil lines. Two ounces for each 100 pounds of shirts added to the regular formula eliminates these lines, according to Schleicher.

— ★ —

## New Whitmire Rodenticide

Whitmire Research Laboratories, Inc., Saint Louis, has just introduced an innovation in dry baits for rat and mouse control, under the product name of "Mouse-Away." The formula consists mainly of processed cereal and Warfarin. The product is packaged in small, individual, tough polyethylene feeders. Each feeder has a punch-out hole through which the rodent nibbles the bait. This design is claimed to prevent

scratching and scattering of bait. "Mouse-Away" contains three individual feeders in each master package, which the maker claims permits wider coverage of the infested area, with better control. "Mouse-Away" feeders also lay flat so they can be conveniently hidden out of sight under low furnishings.



John K. Quinn

## Quinn Joins O.E.L., Inc.

John M. Wittke, president of Oil Equipment Laboratories, Inc., Elizabeth, N. J., aerosol valve manufacturers, announced recently the appointment of John K. Quinn as sales manager for New England and New York state.

Mr. Quinn, formerly assistant sales manager for Risdon Mfg. Co., Naugatuck, Conn., will handle valve sales, as well as custom plastic molding for the recently acquired Wagner Plastic Corp., a wholly owned subsidiary of O.E.L., Inc.

Mr. Quinn, a graduate of Yale University, is a native of Lowell, Mass., and now resides in Bristol, Conn.

— ★ —

## Revlon to Sell Stock

Charles Revson, president, and Charles R. Lachman, senior vice-president of Revlon, Inc., New York cosmetics maker, proposed recently to sell publicly 130,000 shares of Revlon common stock, about 10 per cent of their total holdings.

The concern filed a registration statement with the Securities

and Exchange Commission covering the proposed offering, which will be managed by Lehman Brothers and Reynolds & Co.

"The proceeds of the sale," Mr. Revson said in a letter to stockholders, "will be used to improve our degree of personal liquidity and thus place us in position to put our respective estates in order." The two men, co-founders of the concern, sold a similar portion of their holdings in 1957.

The letter from Mr. Revson said the transaction would not effect the control of the company. He, with Mr. Lachman, owns 1,235,760 shares of the 2,602,630 shares of two classes of stock outstanding. Under the proposal, 65,000 shares of Class B common would be converted into common and sold with another 65,000 shares of common.

#### **Soap Firm Bankrupt**

Nu Bora Soap Co., Portland, Ore. soap and detergent manufacturer, filed voluntary bankruptcy recently in U. S. District Court. The petition was signed by George D. Heisley Jr., president of the firm.

Mr. Heisley stated in the petition, that the firm commenced operations Nov. 1, 1958, and terminated about June 30, this year.

#### **Nopco's Brown Retires**

Perc S. Brown, vice president of Nopco Chemical Co., Newark, N. J., at its Pacific division headquarters in Richmond, Calif., was honored Nov. 4 at a testimonial dinner, marking his retirement after almost 30 years with the company.

Nearly 100 Nopco employees were present, including George G. Stier, president; Ralph Wechsler, chairman; G. Daniel Davis, vice-chairman, and Harry A. Batley, executive vice-president.

Mr. Brown has been vice-president and director of the company since 1933, and since 1950 has headed its west coast operations with headquarters at Richmond.

#### **Onyx Appoints Hodes**

Leonard Hodes was appointed assistant director of technical service for Onyx Chemical



**Leonard Hodes**

Corp., Jersey City, N. J., it was announced recently by Irving Gaines, vice-president.

Mr. Hodes was formerly research chemist in the product development department of Metal and Thermit Corp., at their Rahway, N. J. plant. Prior to that, he was associated with Oakite Products Corp., New York, as research chemist and bacteriologist.

#### **Hercules Elects Execs.**

Elmer F. Hinner and John M. Martin were recently elected vice presidents and members of the executive committee of Hercules Powder Co., Wilmington, Del.

Mr. Hinner has been general manager of the cellulose products department since 1954, and a member of Hercules' board of directors since 1952. He is responsible for the company's activities in the field of polyethylene and other polyolefins. Hercules has operated a polyethylene and polypropylene plant at Parlin, N. J., since 1957. Completion of a second and larger polyolefins plant at Lake Charles, Louisiana is scheduled for January.

Born in Reading, Pa., Mr. Hinner earned his degree in chemical engineering from Pennsylvania State University in 1927. He joined the company at the experiment station, then located in Kenvil,

N. J., and a few months later was transferred to the Virginia Cellulose plant—Hopewell, Va., as a research chemist.

Assigned to special plant problems in 1929, Mr. Hinner was made dry house supervisor in 1935. He was named assistant superintendent of the Hopewell plant in 1938. He moved to Wilmington in 1940 as special assistant to the general manager, Virginia Cellulose department. He was advanced to general manager of the department in 1950. Four years later he became general manager of cellulose products.

Albert E. Forster is president and chairman of the board of Hercules.

#### **Antara Reduces Price**

Antara Chemicals, a sales division of General Aniline and Film Corp., New York, recently announced a price reduction for its vinyl-pyrrolidone/vinyl acetate Copolymer, PVP/VA W-464, a 40% aqueous emulsion. The new price schedule starts at 50 cents per pound in tank car or tank truck quantities, and is a direct reflection of the increased demand for this product.

Introduced six months ago, this stable latex has found increasing application in the fields of hair-spray preparations, adhesives and coatings, and other chemical specialties. The product is emulsifier-free. Its properties are described in detail in a 20 page brochure available on request from the Acetylene Chemicals Department of Antara Chemicals, 435 Hudson Street, New York 14, N. Y.

#### **Cosmetic Chemist Speaker**

The next meeting of the Chicago Chapter—Society of Cosmetic Chemists, was slated for Tuesday, Nov. 15.

Fred Klepetar, senior research chemist of Johns-Manville Corp., Dutch Brand division, was to have delivered a talk on the "Professional Problems of the American Chemist."

## CSMA Hollywood Meeting Program

FURTHER details on the program for the 47th annual meeting of the Chemical Specialties Manufacturers Assn., to be held at the Hollywood Beach Hotel, Hollywood Beach, Fla., Dec. 5-8, were announced recently by A. A. Mulliken, secretary of CSMA.

The meeting opens formally with a general session the morning of Monday, Dec. 5. It will feature an address by George W. Fiero, Esso Standard division of Humble Oil Co., CSMA president. The election of officers and directors for 1961 will also be held during this session. Announcement of the winners of the 1950 aerosol packaging contest will be made at this session and winners will receive their plaques from J. J. Tomlinson, of General Chemical Division, Allied Chemical Corp., New York, chairman of the contest committee.

William L. Shirer, radio and television commentator and author, will discuss the world situation. His most recent work, "The Rise and Fall of the Third Reich," was published recently.

Also scheduled for this session is a panel discussion of the Impact of the Federal Hazardous Substances Labeling Law. Panelists will be Dr. E. G. Klarmann, vice-president and director of technical services of Lehn & Fink Products Corp., New York, former pres-

John A. Willis



ident of CSMA, and chairman of the association's Precautionary Labeling Committee. Also participating will be Robert L. Ackerly of CSMA's legal counsel, Cummings, Sellers, Reeves and Conner, Washington, D. C. law firm. From the Food and Drug Administration of the U. S. Department of Health, Education, and Welfare, will be William W. Goodrich, assistant general counsel of FDA.

Divisional meetings get under way on Tuesday morning, running from 9:00 a.m. to 1:00 p.m. Their programs include:

### Detergents and Cleaning Compounds Division

#### Tuesday, Dec. 6

Address of division executive by W. S. Jessop, U. S. Sanitary Specialties Corp., Chicago.

Symposium on "The Packaging of Household Products in Water Soluble Films." R. K. Rigger, Wyandotte Chemicals Corp., Wyandotte, Mich., moderator. Participants and their subjects: "Merchandising Household Products in Water Soluble Films," by Dr. Richard B. Wearn, Colgate-Palmolive Co., Jersey City, N. J. "The Development of a Polyvinyl Alcohol Type Resin for the Manufacturing of Water Soluble Packaging Film—Why and How," by David F. Laury, manager, new products, Borden Chemical Co., division of the Borden Co., New York. "Water Soluble Films as Packaging Materials," by S. L. Brown, Reynolds Metals Co., Richmond, Va. "The Development and Use of Polyoxy as a Water-Soluble Packaging Material," by Fred W. Stone, Union Carbide Chemicals Co., South Charleston, W. Va.

The program for the second part

of the Detergent and Cleaning Compounds Division will include the following papers: "Recent Developments in Liquid Cleaner Formulations," by Roy E. C. Slipiec, Ralph Kaye Associates, Highland Park, Ill.

"Formulating Food Cleaning and Bacteria Killing Formulations," Chester Mocueski, Clintwood Chemical Co., Chicago.

"Ultrasonic Cleaning," by Severn S. Carlson, Circo Ultrasonic Corp., Clark, N. J.

"Treated Dust Mops," by J. C. Sherrill, maanger technical sales, Armour & Co., Chicago.

"Evaluation of Bleaches," by Ray Liss, Monsanto Chemical Co., Dayton, O.

### Insecticide Division

#### Tuesday, Dec. 6

Address of the chairman of the executive board of the Insecticide Division, Alfred A. Weed, Olin Mathieson Chemical Corp., Asheville, N. C.

"Role of Chemistry in the Administration of the Federal Insecticide, Fungicide, and Pesticide Act," by Dr. Thomas H. Harris, U. S. Department of Agriculture, Washington, D. C.

"Regulations of Insecticides, Fungicides and Rodenticides in Mexico," by The Honorable Rodriguez Adame, Minister of Agriculture, Mexico.

"Mediterranean Fruit Fly Control in Florida," by Dr. C. C. Fancher, U. S. Department of Agriculture.

"Role of BDSA in Government and Industry Activities," by Miss Jane Lewis, U. S. Department of Commerce.

"Vapor Concentrations of DDVP in Household Use," by E. A. Neuwirth.

Committee reports: Scientific Committee, by Dr. Joseph B. Moore, McLaughlin Gormley King Co., Minneapolis, chairman.

Insecticide Chemical Analyses Committee, by Dr. Stanley Freeman, Benzol Products Co., Newark, N. J., chairman.

Education Committee, by George Kerby, Fairfield Chemicals Division, Food Machinery and Chemicals Corp., New York, chairman.

Small Package Garden Insecticides, by Dr. Harry L. Haynes, Union

James Sheridan



Elliott Averett



Carbide Corp., New York, chairman.

#### Waxes and Floor Finishes

##### Tuesday, Dec. 6

Address of division executive board chairman, Earl J. Brenn, Huntington Laboratories, Inc., Huntington, Ind.

"Particle Size and Particle Distribution in Polymer Emulsions," by Richard E. Zdanowski, Rohm and Haas Co., Philadelphia.

"Product Certification of Chemical Specialties is Harmful," by Earl J. Brenn, Huntington Laboratories, Inc., Huntington, Ind.

#### Aerosol Division

##### Wednesday, Dec. 7

Quality Control Session, Moderator: George Barr, G. Barr & Co., Chicago.

"Valves," Norbert Brusky, S. C. Johnson & Son, Inc., Racine, Wis.

"Containers" . . . no speaker as yet.

"Propellants and Propellant Systems" . . . no speaker as yet.

"Concentrate and Concentrate/Systems," by Jack Campbell, Continental Filling Corp., Danville, Ill.

"Production Line Filling and Weighing Stations," Jack Campbell

"Water Bath Spray Checking Systems," by Jack Campbell

"Laboratory Control Procedures," by Daniel H. Terry, Boyle-Midway Division, American Home Products Corp., Cranford, N. J.

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"Special Quality Controls Required for Pharmaceuticals," by John Armstrong, Armstrong Laboratories, West Roxbury, Mass.

"Special Quality Controls Required for Foods," by Clarence F. Clapp, Western Filling Corp., Los Angeles

"What Quality Control Procedures a Marketeer Expects of His Filler," Thomas Harrison, Lehn & Fink Products Corp., Bloomfield, N. J.

"Application of Statistical Control to Aerosol Filling," E. K. Kitow, G. Barr & Co., Chicago.

"Applications of Nitrous Oxide in Chemicals," by Robert C. Webster, manager, Air Reduction Co., Madison, Wis.

Business Session, which precedes Quality Control Session:

"Financing Growth Industries," by Elliott Averett, vice-president, Bank of New York.

"Good Business Accounting Practices," by John A. Willis, assistant secretary and assistant treasurer, Union Carbide Corp., New York.

"Credit Fundamentals: Dynamic or Static," by James Sheridan, vice president and treasurer, Allied Chemical Corp., New York.

#### Disinfectants and Sanitizers

##### Division

##### Wednesday, Dec. 7

Address of division executive board chairman, Claude J. D'Angio, Airkem, Inc., New York.

Dr. Esther McCabe, Director, Consumer Service Bureau, Parents Magazine, New York.

#### Automotive Division

##### Wednesday, Dec. 7

Address of Executive Board Chairman, C. A. Weslager, Fabrics and Finishes Dept., E. I. du Pont de Nemours & Co., Wilmington, Del.

Report of Brake Fluid Committee, D. H. Hanson, R. M. Hollingshead Corp., Camden, N. J.

Report of Products Committee, J. M. Russ, chairman, Union Carbide Chemicals Co., New York.

Report of Hazardous Labeling Laws Committee, Dr. C. M. White, chairman, Olin-Mathieson Chemical Corp., New Haven, Conn.

Report of Anti-Freeze Committee, H. A. Tenney, chairman, Jefferson Chemical Corp., Houston, Tex. (tentative)

Report of Scientific Committee, M. A. Frank, chairman, Dow Chemical Co., Midland, Mich. Report of Program Committee, A. E. Tongue, chairman, Olin Mathieson Chemical Co., Baltimore.

"Advantages of Using a Year Round Coolant," by R. W. Kallgren, manager, Automotive Laboratory, Dow Chemical Co., Midland, Mich.

"Inhibited Anti-Freeze for Cast Aluminum—Testing of Inhibited Anti-Freeze Solutions for Use in Aluminum Engines," by Dr. Crag, chemical metallurgical section, Reynolds Metals Co., Richmond, Va.

"Development of Radiator Specialties," (tentative title), by W. A. Hall, Marshall Laboratory, E. I. du Pont de Nemours & Co., Philadelphia.

"Brake Fluid Development," (tentative title) by D. H. Hanson, supervisor, research laboratory, R. M. Hollingshead Corp., Camden, N. J.

"Merchandising Waxes and Polishes" (tentative), by representative of the advertising agency for Simoniz Co., Chicago.

#### General Session

##### Thursday, Dec. 8

Doyle Conner, Commissioner-Elect, and Lee Thompson, commissioner, Department of Agriculture, Fla.

"Get Acquainted" Party Sunday evening at 6 p.m.

"Suppliers Party," Tuesday evening.

Farewell Party and Awards, Thursday.

Open afternoons (no program) Monday, Tuesday, Wednesday, Thursday.

—★—

#### W. G. Reed Dies

Dr. W. G. Reed, 65, who retired as chief of the Pesticide Control Section of the U. S. Department of Agriculture in 1957, died Oct. 10. Dr. Reed had been with the U. S. D. A. for 28 years.

#### USDA Clears "Lethane"

Tests conducted by Rohm & Haas Co., Philadelphia, have been accepted by the United States Department of Agriculture as satisfactory evidence that "Lethane" thiocyanate compound may now be used safely as the toxicant for the control of such insects as horn flies, stable flies, mosquitoes and gnats on dairy cattle. It will now be entered in the U.S.D.A. "Summary of Certain Pesticide Chemical Uses" on a no-residue basis.

The conditions of use specified by the U.S.D.A. are:

"Not more than  $\frac{1}{2}$  ounce of a 3.5% spray (6% "Lethane" 384 by volume) per adult animal twice daily. Apply evenly over upper neck, back and rump. Do not wet hide. Avoid spraying udders, eyes, mouth; feed or drinking troughs; or milk buckets and equipment directly contacting milk."

The Food and Drug Administration has concurred with the conclusions of the U.S.D.A., assuring the farmer that "Lethane" sprays, properly formulated and correctly applied, present no hazard of contaminating milk.

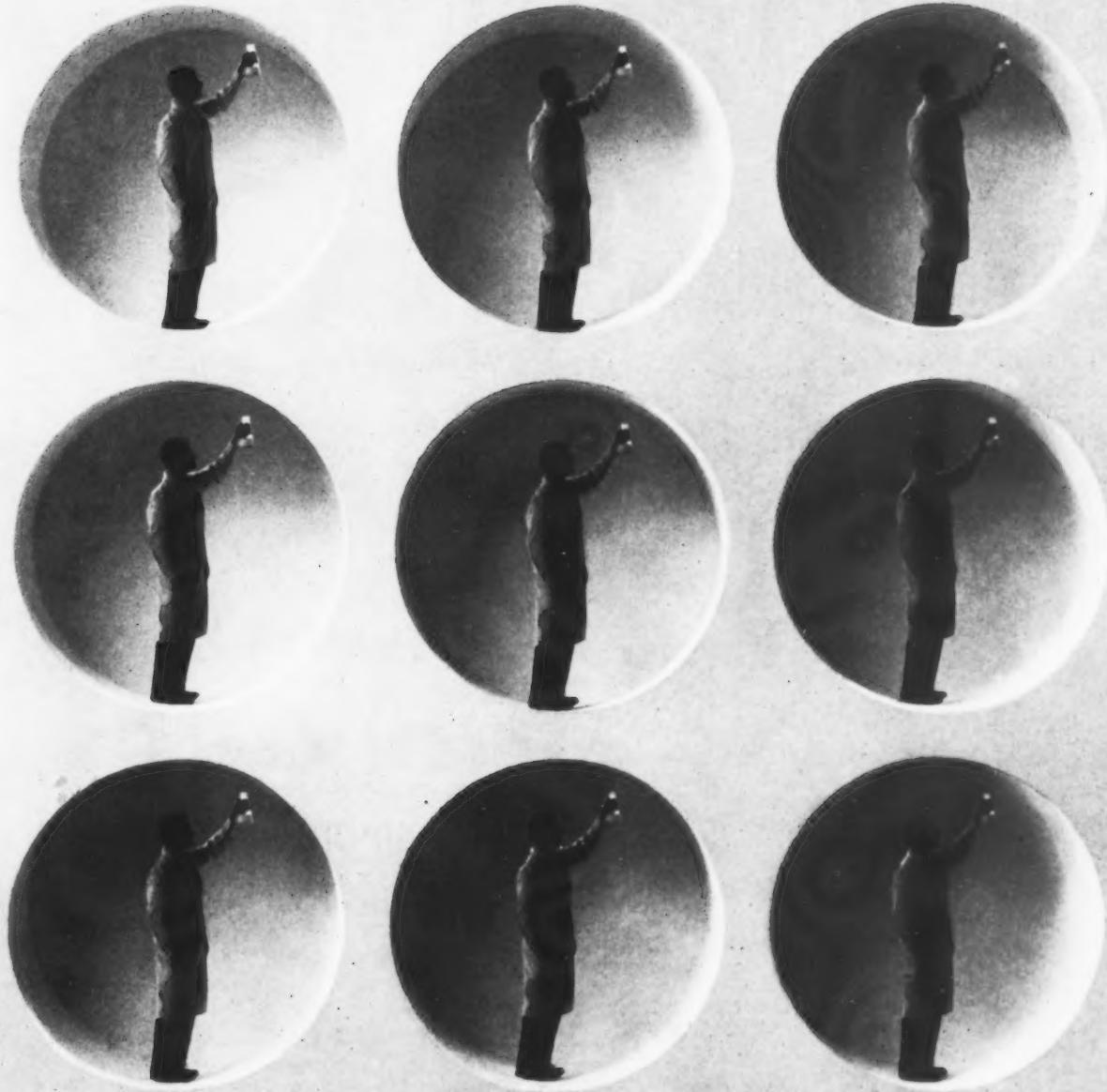
#### Hercules Appoints Three

Three major executive appointments were announced recently by Hercules Powder Co., Wilmington, Del.

Richard J. Both, director of development for the Naval Stores department, was appointed assistant general manager of the company's Virginia cellulose department. Mr. Both had been director of development for Naval Stores since June, 1960. Prior to that he was manager of the company's Chicago sales district.

Spencer H. Hellekson, assistant director of operations for the Paper Makers Chemicals department since Oct. 1955, was named assistant general manager of the Naval Stores department.

E. Langford Jones, director of sales for the Virginia cellulose department, was appointed assistant general manager of the synthetics department.



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The preferred all-purpose complex phosphate. Affords outstanding hard water control. Its synergism boosts the cleaning power of other components in your mix, particularly the wetting agents. Costs less than the re-

placed synthetics. Ends need to use harsh alkalis in formulation to offset high wetting agent cost. Superior buffering, sequestration and peptizing. Used in dish and laundry detergents and in floor, wall and metal cleaners.



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A buffered synergist, sequestrant and dispersant. Free from the high alkalinity and causticity of other builders. Softens water without precipitating soils on surfaces. Enhances any formulation's free-rinsing performance.

High solution stability. Used in dish detergents, vat cleaners and when the dispersion and viscosity reduction of a complex phosphate is required, as in clays and pigments and slurries.



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Granular 30/60 (Special Mesh)	+ 30 0.5% + 60 69.8%	+ 30 max. 1% + 100 min. 80%
Granular 30/70 (Special Mesh)	+ 30 0.3% + 70 71.0%	+ 30 max. 1% + 40 max. 20%
Granular 30/80 (Special Mesh)	+ 30 0.8% + 80 76.6%	+ 30 max. 1%
Granular 30/100 (Special Mesh)	+ 30 Nil + 100 86.7%	+ 35 none + 100 min. 85%
Granular 40/100 (Special Mesh)	+ 40 Nil + 100 89.0%	+ 40 max. 0.5% + 100 min. 88%
Granular 40/140 (Special Mesh)	+ 40 0.1% + 140 88.8%	+ 35 none + 100 min. 50%
Granular 40/200 (Special Mesh)	+ 40 0.1% + 200 84.1%	+ 30 none
Granular 60/200 (Special Mesh)	+ 60 0.1% + 200 66.7%	+ 60 max. 1%
Granular 80/200 (Special Mesh)	+ 80 2.0% + 200 67.6%	+ 60 none + 80 max. 5%

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- They inhibit rusting of steel containers

Nopco Hy-purity Alkylolamides, when used in liquid detergents, measurably increase viscosity.

The Hyonic LA Series is only one of Nopco's complete line of surface-active agents, products which permit you to tailor your detergents to the desired performance and marketing standards. Nopco offers a single source for all your detergent requirements, plus generous quantity discounts and freight savings. Without obligation, write for technical bulletins on the Hyonic LA Series or information on other Nopco surface-active agents.



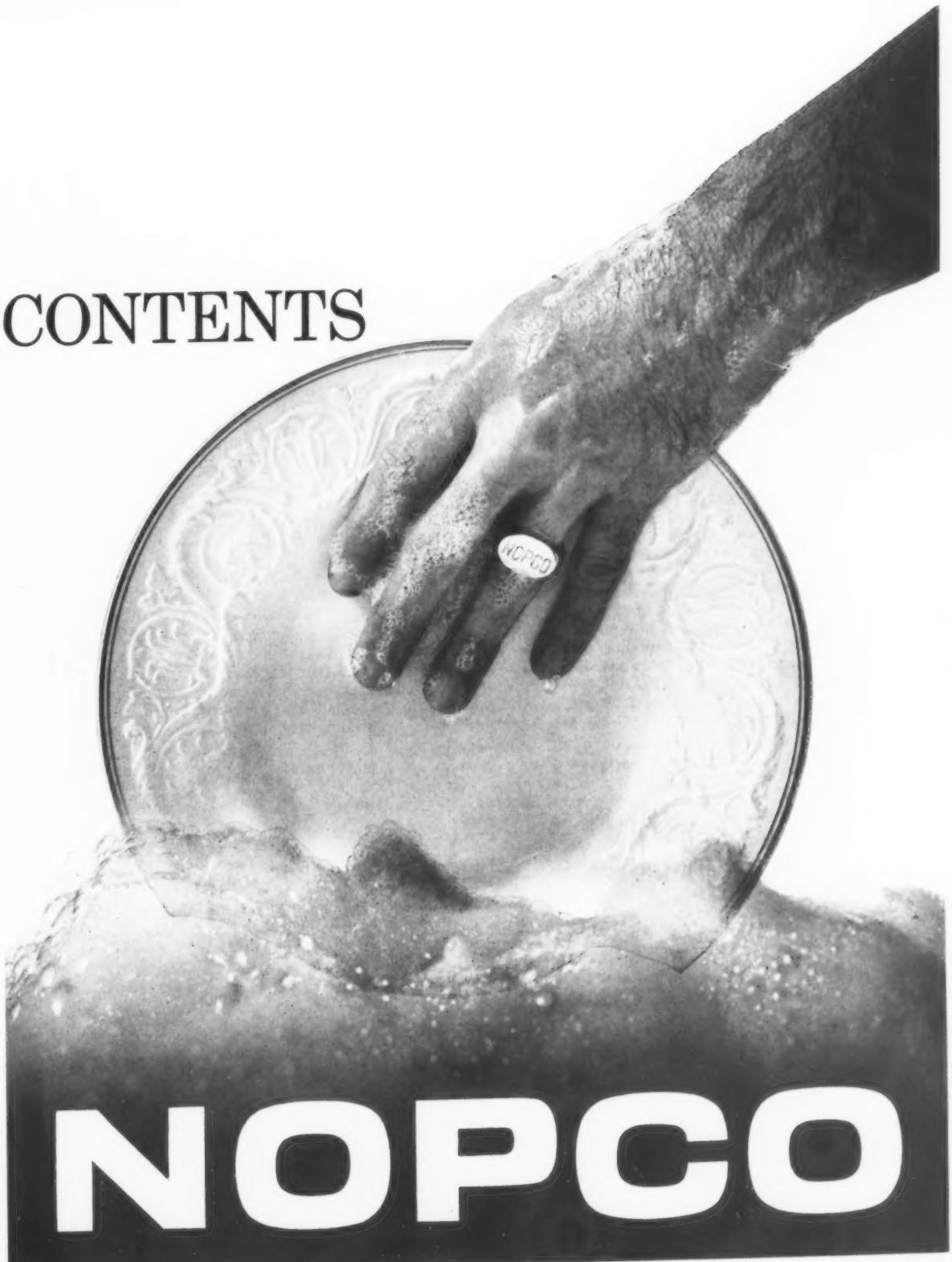
**NOPCO CHEMICAL COMPANY**

60 Park Place, Newark, N.J.

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A SKILLED HAND IN CHEMISTRY...AT WORK FOR YOU

## CONTENTS



# NOPCO

*less residual odor on fabrics ...*

# *when the softener has New ADM*

easier perfuming...whiter too! non-irritating to skin...  
more softener quality at no added cost

**Now, No Musty Softener Smell!** Odor is virtually eliminated as a textile-softener problem with the introduction of ADM's new Adogen 442.

This is a new quaternary salt specially developed by ADM research chemists to produce a finer quality softener for commercial and home laundering. It is created through ADM's unique processing from highest purity fatty amines.

As a result, Adogen 442 is exceptionally free from objectionable odors, both in the bottle and on treated fabrics. Blindfold tests show Adogen 442 can help you cut back perfuming costs and lowers residual odor after use dramatically. Panel tests on odor showed Adogen 442 excellent for commercial softeners. Comments like musty, sour and stale were replaced by delighted references to clean and fresh.

**Offers Whiter Color**—Adogen 442 is an exceptionally white di-hydrogenated-tallow quaternary, sold as a 75% paste in alcohol and water. Its lighter color makes it ideal for even the finest grade softeners. Com-

mercial batches of Adogen 442 run consistently Gardner 1 to 3. This gives fabric softeners a brighter, livelier color in the bottle, whether they are white or tinted.

**Non-Irritating To Skin**—Dermatological tests on albino rabbits reveal that Adogen 442 is essentially non-irritating to skin. In neither the primary nor the latent skin irritation tests were any significant erythema or edema formation detected. Adogen 442 has no cumulative toxic effects.

Water dispersible Adogen 442 is soluble in polar organic solvents and many of the non-polar type. It is also compatible with non-ionics as well as other cationic surfactants. To further protect its quality, Adogen 442 is delivered in epoxy-phenolic lined drums especially designed for ADM.

For further information on Adogen 442, or other ADM quaternary ammonium compounds, write to Archer-Daniels-Midland Co., 700 Investors Building, Minneapolis 2, Minn. Research samples on request.

### Industrial Bacteriostat News!

*Exceptional solubility in saline or hard water available  
with NEW FURFURYL ADOGEN 446*

Here are new savings and new performance even in hard water in industrial bacteriostats just developed by ADM research: ADM furfuryl Adogen 446. This low-cost furfuryl quaternary combines exceptional new solubility with germicidal effectiveness.

Striking performance in Chambers tests against *Staphylococcus aureus* in 500 ppm hard water shows Adogen 446's effectiveness against gram positive bacteria. The phenol coefficient of Adogen 446 compares favorably with benzyl quaternaries and cetyl pyridinium chloride. Solubility of up to 40 per cent in tap water and 20 per cent in brine helps preserve its sanitizing efficiency under adverse water conditions. Ask us for more facts about its exceptional performance.

Low cost and germicidal effectiveness combine to make Adogen 446 a promising ingredient for hotel and restaurant sanitizers, bottle washing, floor cleaners, and a variety of industrial germicides. The long fatty chains in the new furfuryl quat gives balanced conditioning properties which may be useful in hair rinses, textile specialties, and a host of other applications. Information and development samples may be had by writing Archer-Daniels-Midland Co., 700 Investors Building, Minneapolis 2, Minnesota.

# Adogen 442



## ADM and Atlas Powder Announce First Gas Chromatography For Primary Amines

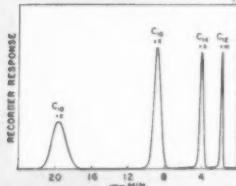
Not so long ago ADM broke the ice and revealed the first use of gas chromatography in routine production line analysis of fatty chemicals. A genuine milestone it represented in over 25 years of searching and researching for better ways of making chemicals.

But one thing had us stumped . . . try as we would, we just couldn't analyze amines because the peaks were asymmetrical. But, today, things are different.

Eager beavers at our own and Atlas Powder Company's labs have jointly developed a method to make a gas chromatographic analysis directly on a primary amine. Unless you have tried and failed in this attempt, you'll probably never really appreciate how proud this moment is, even though we can't yet touch secondaries.

The method utilizes a column containing a non-polar liquid substrate on a Chromosorb W solid support which has been treated to reduce absorptivity. Relative sensitivity factors, determined for pure amines, are used to correct peaks during analysis. It works beautifully for the separation and analysis of primary fatty amines with chain length from 8 through 22.

Matter of fact, the improved color and higher purity of our new Adogens, like 442, is at least



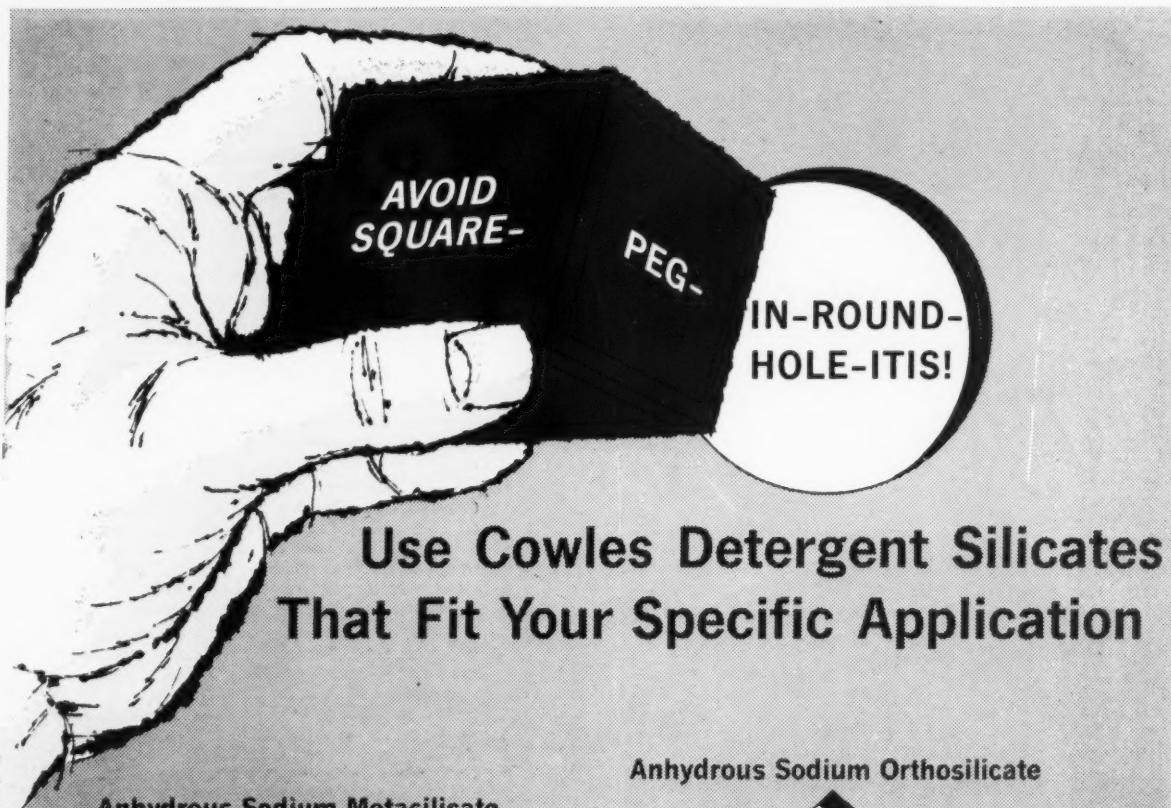
indirectly a proud result of our growing skill in gas chromatography.

Add to this our world-wide ADM operations, which give use control of raw materials, and you see we have quite a favorable atmosphere for production and control of quality Chemifats . . . whatever their type.

**Archer-  
Daniels-  
Midland**

INDUSTRIAL CHEMICALS DIVISION  
734 Investors Building  
Minneapolis 2, Minnesota





## Use Cowles Detergent Silicates That Fit Your Specific Application

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Most highly concentrated metasilicate . . . a source of controlled alkalinity. DRYMET puts extra value into your cleaning compounds. Blends easily with other alkalies, soaps, synthetics.

### Anhydrous Sodium Orthosilicate

#### DRYORTH®

Ready-to-use, power-packed, highest pH detergent silicate. DRYORTH is an excellent heavy duty metal cleaner and laundry detergent. Other important applications.

### Pentahydrate Sodium Metasilicate

#### CRYSTAMET®

Exceptionally pure hydrated metasilicate. Stable crystal structure and uniform spherical granules makes CRYSTAMET ideal for compounding free-flowing mixtures. Available in three screen ranges.

### Anhydrous Sodium Sesquisilicate

#### DRYSEQ®

A medium pH alkaline salt for fast, dependable work at low cost to the user. DRYSEQ has excellent penetrating and wetting-out properties.



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Stocked in principal cities and available in mixed carloads and truckloads, Cowles detergent silicates give you complete versatility in compounding. Send letterhead request today for more information.

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*With ABS-99 you get extra activity, not water.*

That's because Pilot ABS-99 is 98% pure — so pure, in fact, that it may be kept in plain steel containers!

ABS-99 offers you the highest sulfonic concentrate commercially available, with 14% more active ingredient than ordinary sulfonics. Such a standard is only made possible by the unique Pilot *ice-cold, dilute, air-free vacuum sulfonation process*.

Make ABS-99 your cornerstone for all sulfonic formulations for dry compounds; oil and water dispersable products; low sulfate liquids and pastes; and amine sulfonates. Informative literature and samples of versatile ABS-99 are yours for the asking, write:



PILOT

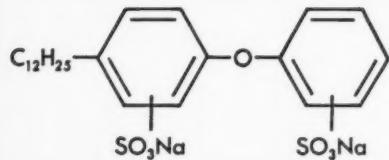
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2A1



New  
anionic surfactant  
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by eliminating  
coupling agents

Dowfax® 2A1 surfactant exhibits superior solubility and coupling ability. It produces clear, sparkling formulations with "dividend space," the extra "room" usually occupied by non-working coupling agents required to hold some detergents in solution. Dowfax 2A1 has a unique chemical structure that makes it soluble and stable in alkalies and acids and soluble and stable to metal salt build-up. It can be readily defoamed for applications in the fields of heavy duty liquids, alkaline cleaning, and many others. Write for data and samples. THE DOW CHEMICAL COMPANY, Midland, Michigan, Technical Service and Development, Department 601ER11.

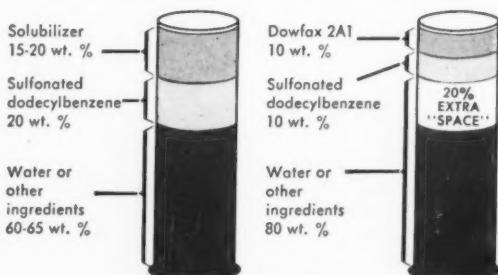
See "The Dow Hour of Great Mysteries" on TV.

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HERE'S HOW DOWFAX 2A1 GIVES MORE "SPACE."

Typical non-surfactant solubilizer:

DOWFAX 2A1



# as the editor sees it...

## ANTIFREEZE

The competitive heat has certainly been turned on in the antifreeze market during the past month. Never in the history of the automobile have we seen such a dog-fight for antifreeze business. Three of the largest chemical companies are in the fight up to their ears, all with their own retail brands. They seem to be spending money on consumer advertising with a free abandon. All are permanent-type products based on glycols and all include rust inhibitors.

Behind the big push for antifreeze sales this year stands a very adequate production of glycols, more apparently than the producers can sell elsewhere. So the antifreeze market is elected to absorb it. Other types of antifreeze are likely to be shoved aside in the rush. One of the glycol products is very widely known and at this sitting appears to have a competitive edge, we would guess. Apparently, no thought is being given right now to the trend toward air-cooled engines in some of the compact cars. All hands are just too busy with the current battle. Before the fracas is over, somebody could get hurt, especially if any of the products laid an egg.

\* \* \* \* \*

## LABELING

The new Hazardous Substances Labeling Act becomes law on January 12, 1961, six months after the law was signed by the President. This new law which affects just about every chemical specialty product on the market in one way or another, will be administered by the Food & Drug Administration. This agency which administers the Food, Drug & Cosmetic Act has had wide experience in enforcing labeling laws and regulations. It knows the score and we believe it also fully appreciates the problems faced by manufacturers.

Before January 12 next, we imagine that FDA will issue a set of preliminary regulations covering enforcement of the new law. They will probably spell out what is and is not to be done. But in the meantime, we believe it might be

enlightening for those manufacturers who have not read the law in full to read it,—and get a general idea of where they stand. (Published in full, S&CS, August, 1960 issue.) We also believe that label changes should await publication of the regulations. Manufacturers undoubtedly will be given a reasonable time to make required changes. The record of FDA shows it is cooperative with manufacturers who in turn show a true spirit of cooperation in law enforcement.

\* \* \* \* \*

## APPROVED LISTS

If all the proposed lists of approved products now in the thought and preparation stage are actually promulgated, the manufacturer of chemical specialties, particularly maintenance chemicals, will find his bill for listing fees mounting to unprecedented figures. Quite evidently, the hotel association is not alone in aiming to "protect" its membership from inferior products. Others are clambering on the band wagon. Before we know it, the maintenance chemical manufacturer will find himself paying tribute to a half-dozen approved lists just so his products may have the opportunity to compete with those of other suckers on the same lists.

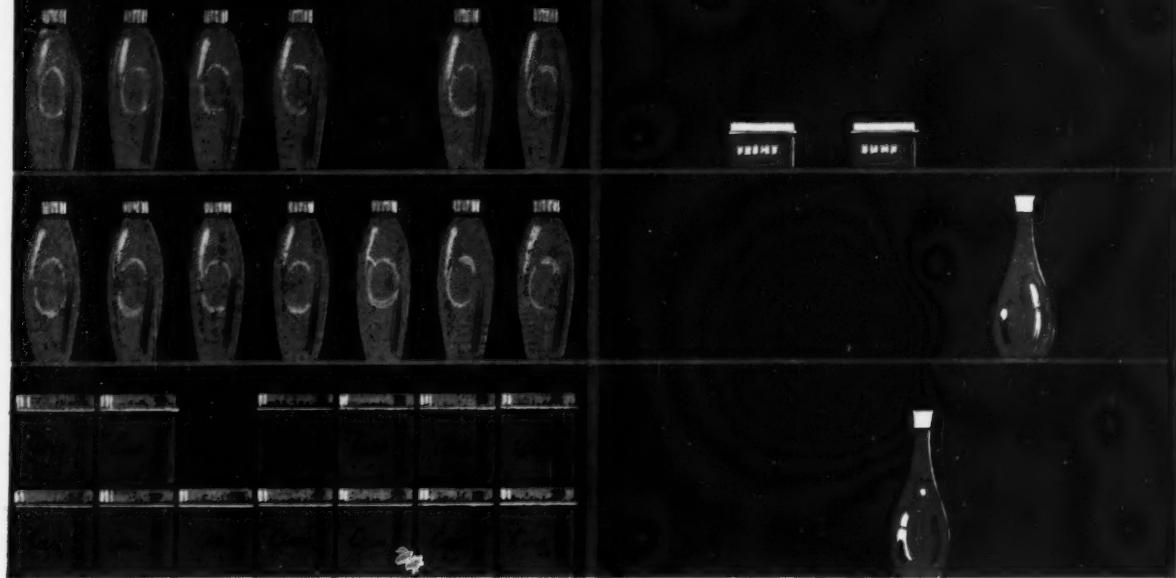
We repeat that approved product lists are strictly mythical protection for the buyer. They are no assurance of quality nor proper performance. They are no assurance that the product as delivered on order even meets the original specifications which gained it admission to the inner sanctum of listed products. The reputation of the supplier and performance experience with his materials are in our book still the best protection for the buyer.

The Chemical Specialties Manufacturers Association continues strongly to oppose any and all approved product lists, labeling them for what they are, unjustified and unfair tribute saddled on product manufacturers. Once again, we urge manufacturers to refuse to be black-

## EMERSOL<sup>®</sup> OLEIC ACIDS

the difference between

# SIT & SELL



Shelf space is valuable. Your product must move or it's moved out. Once out, it's next to impossible to get it back on the shelf. That's why the extra quality of the Emersol Oleic Acids is so extremely important to your profit picture — especially since they cost no more.

Here's what you buy at no extra cost with Emersol Oleic Acids. You get unsurpassed whiteness which reflects in the eye appeal of your product... invites customers to "reach for me." Outstanding color stability which

assures that your product will retain its "buy appeal" through storage, shipping, shelf life, and use. High immunity to oxidation which keeps your product pleasant smelling and delicately colored through many cap removals. And you are assured of these "extras" with every shipment of Emersol Oleic because Emery's strict quality control never wavers.

Find out how you can add "sell" to your product at no extra cost. Request Emeryfacts booklet titled "Emersol Oleic Acids." Write Dept. S-11.



FATTY ACID SALES DEPT., CAREW TOWER, CINCINNATI 2, OHIO . . . a little extra everything except price

VOPCOLENE DIVISION, LOS ANGELES—EMERY INDUSTRIES (CANADA) LTD., LONDON, ONTARIO—EXPORT DEPARTMENT, CINCINNATI

jacked and to condemn openly any and every new proposed list that may loom on the horizon.

\* \* \* \* \*

#### PUZZLE

The lady in Brooklyn bought a "Norge" clothes washing machine. When it arrived from the factory, neatly wrapped, it contained, sealed within, the following: one can "Wisk," one box "Calgon," one box "Beads-O-Bleach," one bottle "Sta-Puf." Lucky we, said she, all for free! But the machine had to be hooked up to the water supply and all that, and such operations required the services of an expert, sort of a plumber sent over by the local distributor for Norge washing machines.

The service man, that is the plumber fellow sent over by the distributor, arrived in due course. In addition to tools, he was toting a large box of "Tide," something termed "a special distributor's box" of "Tide." He told the lady that was the product to use in her washer, phooey on all that other stuff, and made her a gift of the box. She accepted gladly. Who wouldn't take a free box of "Tide"?

But the aforementioned lady was puzzled. What to use? Was the manufacturer off base or was the distributor's service man all wet? What was the idea of this miscellaneous assortment of free goods? Why were they so good to her? The last we heard she was still wondering.

\* \* \* \* \*

#### REPRINTS

Over 50,000 copies of the Hackett-Kimball floor waxing report presented before the last meeting of the Chemical Specialties Manufacturers Association are being distributed by the Association. Copies are going to every flooring dealer and distributor in the country. In addition, the report is being sent to industrial and institutional maintainers of large resilient floor areas, and also to dealers and distributors who supply them with maintenance materials. CSMA is acting in behalf of all floor wax manufacturers and distributors.

The floor waxing report on which we have commented before covered a 14-week study of waxed and unwaxed floors of all types in heavy traffic areas. It concludes that waxing materially

enhances the beauty of all resilient floors, that it increases resistance to soiling and protects against scratching and dulling, and is vitally necessary in floor maintenance. In short, it refutes quite definitely and finally any claims of some vinyl flooring manufacturers that their materials require no waxing.

Reprints of this report are available from the CSMA at its office, 50 East 41st Street, New York 17. We feel that every company with a stake in the floor wax market should see to it that all their customers are made familiar with the contents of this report.

\* \* \* \* \*

#### HOW MUCH?

How much is the consumer willing to pay for the convenience of aerosol products? Since the answer to this question goes far toward determining whether or not a product will succeed, we believe that marketers should spare no effort to come up with the right answer. In all too many cases, pricing is based on sheer guesswork.

Lately, the evidence has been mounting that aerosol marketers are a bit too optimistic as to the consumer's valuation of the convenience factor of pressure packages. The du Pont survey of aerosol paints makes the very telling point that the major reason why some consumers have not tried these products is price. Possibly the price difference between aerosol paints and those applied with a brush is not great. But if the consumer *thinks* so, then the marketer has his work cut out for him.

Similarly, a new beautifully packaged aerosol hand cream brought from a druggist the opinion that the product won't sell. "The consumer will not pay that much more for the cream in an aerosol package," he said flatly. In another instance a housewife complained that she doesn't get enough product for her money in a pressure package. She can't see the contents, but she hears the product rattling around in what seems to be a half-empty package. Nor can she figure out the contents of the can from the label.

The problem of pricing is not an easy one for any manufacturer, but solve it he must if the market for his product and all aerosols is to keep growing at rates so freely predicted.



IN YOUR IMPROVED PRODUCTS . . .

## Jefferson SURFONIC® Surface-Active Agents make the best kitchen helpers

Men are nice to have around but not so dependable in the kitchen as your work-saving products that contain SURFONIC® Surface-Active Agents. Virtually every item she keeps beneath the sink is made better by the broad modification properties of these Jefferson surfactants . . . low-foaming laundry detergents, low- and high-foaming liquid detergents, general purpose cleaners, germicidal detergents, sanitizers, metal cleaners, and many others. And indirectly, the cost of our foods is reduced by the use of surface-active agents in insecticides and herbicides.

SURFONIC® Surface-Active Agents are adducts of ethylene oxide and nonyl phenol (N-series 10 to 300) or tridecyl alcohol (TD-series 30 to 150). These surfactants are nonionic and have excellent wetting, detergency, solubility, penetration, dispersion, emulsifying and compatibility properties. They are stable over a wide range of conditions.

Write for free comprehensive technical bulletin, "SURFONIC® Surface-Active Agents" . . . Jefferson Chemical Company, Inc., 1121 Walker Avenue, P. O. Box 303, Houston 1, Texas.



Ethylene and Propylene Oxides, Glycols, Dichlorides, Carbonates  
SURFONIC® Surface-Active Agents • Ethanolamines • Morpholine  
N-Alkyl Morpholines • Polyethylene and Polypropylene Glycols  
Piperazine • Piperazine Salts • Nonyl Phenol • Caustic Soda

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**JEFFERSON  
CHEMICALS**

# as the reader sees it...

## Grain Article Reprint

Editor:

Our branch office in Tokyo, Japan is very much interested in reprinting the original English version of the article, "Insecticides for Stored Grain," published in the April 1960 issue of *Soap & Chemical Specialties*, and translating it into Japanese for distribution to Japanese farmers as a gesture of friendly American help to improve their lot.

We believe that disseminating of your informative article to help poor farmers of nations friendly to us is a contribution that you and we now can render. Therefore, we will appreciate your courtesy in granting us permission to our Tokyo branch office to reprint and translate the article.

Tsuhsuen Lee,  
Intercontinental Industries, Inc.  
Chicago

We have gladly given our permission to Mr. Lee to have this article reprinted. Ed.

## Detergent Query

Editor:

We are interested in the article, "Household Detergent Trends" which appeared in the September issue of *Soap & Chemical Specialties*. Since we would like to import several chemicals recommended in the article as raw materials for synthetic detergents, we should very much appreciate it if you could let us have the names and addresses of manufacturers of the chemicals mentioned in the article. The materials in which we are interested include: tridecyl benzene sulfonate, also the 14 carbon atom material, alpha-sulfo palmitic and stearic acids, and n-fatty acid aminopropionates.

Some of these chemicals may be available in limited quantities at present, but we are anxious to

have some samples to anticipate future demands.

R. Sakai,  
Chemicals Import Department,  
K. Sakai & Co., Ltd.,  
4-Chome, Nishinagahori,  
Osaka,  
Japan

For the benefit of Mr. Sakai, and any of our other readers, our research has come up with the following answers: Tridecyl ( $C_{13}$ ) benzene sulphonate, Continental Oil Co., 1270 Ave. of Americas, New York, N. Y.; Oronite Chemical Co., 200 Bush St., San Francisco 20, Calif.; Monsanto Chemical Co., St. Louis 24, Mo.; Atlantic Refining Co., 260 S. Broad St., Philadelphia 1, Pa.; Ultra Chemical Works, Inc., 2 Wood St., Patterson, N. J. Alpha-sulfo palmitic and stearic acids are produced by Armour Industrial Chemical Co., 110 N. Wacker Drive, Chicago 6, Ill. General Mills, Kankakee, Ill.

makes n-fatty acid aminopropionates. Ed.

## Safety Films Available

Four new films designed to educate employees on safe and correct handling of common industrial chemicals, are now available from Dow Chemical Co., Midland, Mich.

The film titles are: "Handling caustic soda safely," "Handling chlorine safely," "Handling chlorinated solvents safely," and "Handling muriatic acid safely." Each is a 35mm, four-color sound slide film running approximately 12 minutes.

Information in the films is based on Dow's own experience as well as on the latest recommendations of the Manufacturing Chemists' Association. The films are available free-of-charge on a "loan out" basis through Dow sales offices and from the public relations department at Midland.



# How to make sure of Successful Formulation

1. Use Procter & Gamble products
2. Use Procter & Gamble formulation assistance



KYRO EO. A neutral nonionic synthetic detergent of the 100% alkylphenol ethylene oxide condensate type. A clear light-colored liquid with a clean, pleasant odor. Its superior detergent, wetting and emulsifying properties offer excellent performance in liquid detergents, sanitizer-detergents, self-emulsifying solvents, laundry detergents, glass, textile, and dairy cleaners, insecticides, and bottle washing compounds.



AB GRANULES. A neutral synthetic detergent, wetting and emulsifying agent of the 40% active sodium alkyl aryl sulfonate type. A white spray-dried product that can be used effectively in the blending of bubble baths, car body shampoo, dishwashing compounds, dairy cleaners, insecticides, laundry detergents, rug and upholstery cleaners.



WA PASTE. A neutral synthetic detergent and wetting agent whose active ingredient is mainly sodium lauryl sulfate. Excellent sudsing, wetting, dispersing and penetrating properties. Ideal for paste cream and liquid cream shampoos, bubble baths, liquid detergents, liquid floor cleaners, insecticides, glass cleaners, and especially effective for rug and upholstery cleaners.



AMBER GRANULES. A neutral 88%, 42°C. titer type soap of outstanding purity and uniformity. Well suited for the preparation of paste or gelled products because of its high titer. Its granular form makes it ideal for blending powdered products. Excellent for the compounding of hand cleaners, paste cleaners, polishes, and lubricants.



ES PASTE. A specially developed synthetic detergent whose active ingredient is mainly modified sodium lauryl sulfate. Offers exceptional efficiency and stability over a wide range of operating conditions. Its excellent wetting, penetrating, sudsing, dispersing and emulsifying properties make it well suited for the preparation of liquid shampoos, bubble baths, liquid detergents, liquid floor cleaners, insecticides, car washes, emulsion cleaners.

Procter & Gamble products offer you a proven way to simplify your formulation problems and be confident of successful results. We invite your inquiry for further information and the opportunity to forward an Industrial Catalogue. Write to:



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Manager, Bulk Soap Sales Department  
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IVORY BEADS. A medium titer, neutral spray-dried white soap of exceptional purity and quality. Well suited for compounding products where a mild but effective soap is required—hand soaps, polishes, protective creams, and dishwashing compounds.



K LIQUID. A highly concentrated modified ammonium lauryl sulfate—formulated for increased sudsing and mildness. Exceptionally low cloud and pour points—highly fluid and easy to handle. Ideal for clear liquid shampoos, liquid bubble bath preparations, and liquid detergents when high foaming is required.

# Detergents . . . Cleansers . . . Soaps . . .

Charles A. Dubois, chairman of DuBois Chemical Company, and son of T. V. Dubois, founder of the company, is shown here. T. V. Dubois founded the company in 1902 and has supervised from the first operations its present organization, as well as playing a major role in the growth of DuBois Chemical Company. Since its

Alcohol  
Detergents  
Detergent soaps  
Household cleaners  
Liquid detergents  
Mild soaps  
Molasses  
Moth repellents  
Powdered soaps  
Scenting cleaners  
Shampoos  
Stone products  
Soap powders  
Starch  
Stearic cleaners  
Textile detergents  
Toll Soaps  
Tallow soaps  
and other detergents  
and soaps.



# chemicals on the move... for you

Modern chemistry has created hundreds of new and better formulations to keep pace with America's stepped-up personal needs. For cleanliness, soaps and detergents are measured in billions of pounds each year. Every day brings new chemical specialties to make our lives easier and better.

To meet varied requirements of these processors and formulators, Olin Mathieson is on the move. Currently we are increasing caustic/chlorine production in important growth areas — adding new plant facilities for the production of polyols — marketing a

wide range of surfactants of outstanding performance. Olin Mathieson offers quality phosphates, alkalies, organics, and specialty chemicals in volumes to provide for changing market conditions.

Change is the challenge, and the future depends on the ability to predict change and prepare for it. As a step in providing for your future, let us review your chemical requirements now. In terms of future—or present—developments, our experience in chemical supply can be useful.

7544-A



**Olin Mathieson**  
CHEMICALS DIVISION, BALTIMORE 3, MD.



Ammonia • Bicarbonate of Soda • Carbon Dioxide • Caustic Soda • Chlorine • Formaldehyde • Hydrazine and Derivatives • Hypochlorite Products  
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Trisodium Phosphate • Trisodium Phosphate Chlorinated • Sodium Tripolyphosphate • Tetrásodium Pyrophosphate • Sodium Hexametaphosphate  
Monosodium Phosphate • Disodium Phosphate • Sodium Acid Pyrophosphate • Tetrapotassium Pyrophosphate • Sulfuric Acid • Hydrofluoric Acid  
Sodium Silicofluoride • Sodium Fluoride • Tex® I20 Surfactant

**Analysis of detergent mixtures, effect of cryoscopic forces on detergency, sulfation of higher fatty acids, nonionic detergents as soil removers for glass, and new vacuum drying of soap discussed at**

# **Oil Chemists' Detergent Session**

**T**HE American Oil Chemists' Society devoted a special session to the study of detergents and soap at the group's 34th fall meeting held in New York Oct. 16-19. Presided over by Foster Dee Snell, Foster D. Snell, Inc., New York, the session opened with a presentation by Milton J. Rosen, Brooklyn College.

### **Surfactant Analysis**

Dr. Rosen spoke on "Analysis of Mixtures of Ionic and Nonionic Surface Active Agents: Separation and Recovery of Components by Batch Ion Exchange." To separate anionics from nonionics, a solution of four to five grams of the surfactant mixture in 100 ml. of distilled water was stirred with a strong anion exchange resin. The author used 20 grams of "Dowex 1-X4," 200-400 mesh. The mixture was then filtered and the filtrate washed with 95 per cent ethanol to recover the nonionics from the resin/surfactant complex.

Dr. Rosen described the step by step selective removal of anionics from the resin complex. Soaps, sulfated and sulfonated, esters, organic sulfates, sulfonic and sulfo-carboxylic acids can be successively removed from the anionic/resin complex.

In the separation of cationics from nonionics a similar procedure is followed except that purified "Dowex 50-X4" ion exchange resin was used. Nonquaternary and quaternary amines can

be removed successively from the resin/cationic complex.

Fourteen different mixtures of commercially available types of surface active agents were separated and analyzed and results of this work were shown on slides and discussed in detail by Dr. Rosen.

### **Cryoscopic Forces**

"Cryoscopic Forces and Detergency" was the title of a paper by Lloyd I. Osipow and Dr. Foster Dee Snell of Foster D. Snell, Inc., New York. The paper was presented by Mr. Osipow who defined the meaning of cryoscopic for the purpose of the paper as "forces of cohesion and repulsion between long chain polar molecules." These forces, according to the author, determine the degree of packing or aggregation of molecules in surface films and in micelles. These in turn influence critical micelle

concentration and determine foaming power and detergency of a surfactant solution.

Mr. Osipow showed that additions of sucrose monotallowate to alkyl aryl sulfonate solutions lower the total active agent content required for formation of liquid crystals. In contrast, additions of ethylene oxide derivatives of fatty acids to alkyl aryl sulfonate solutions were found to increase the total amount of active agent needed for the formation of liquid crystals, the author reported.

In other words, ethylene oxide derived nonionics exert a deaggregating or expanding effect. This, the authors stated, is reflected in the reduced foam and lowered detergency exhibited by combinations of these nonionics with alkyl aryl sulfonates. Results were cited of work done with commercially available brands of polyoxyethylene monostearates which support the authors' findings.

Additions of sucrose monotallowate to alkyl aryl sulfonate solutions left foaming and detergent properties of such systems at a high level owing to the condensing effect of the sucrose monoester. Fatty acid alkylolamides were shown to have a similar effect in such systems.

Mr. Osipow presented evidence indicating a relationship between soil removing power and the tendency to form anisotropic solutions, exhibited by the surfactant systems. Formation of aniso-

Foster D. Snell



tropic solutions is related to the hydrophile-lipophile balance or HLB. Higher HLB values were obtained with sugar esters than with polyoxyethylene based non-ionics, Mr. Osipow reported in his presentation.

### Alpha Sulfonation

Methods for the alpha-sulfonation of saturated higher fatty acids were discussed in a paper, "Alpha Sulfonation of Palmitic, Stearic, and Substituted Stearic Acids," by J. K. Weil, A. J. Stirton, R. G. Bistline, Jr., and Waldo C. Ault of the Eastern Regional Research Laboratory, U. S. Department of Agriculture, Philadelphia 18.

Alpha-sulfonation with sulfur trioxide, chlorosulfonic acid and dioxane sulfur trioxide was compared.

The direct sulfonation with liquid  $\text{SO}_3$  yields a grey product. A slightly better color is obtained with  $\text{SO}_3$  vapor. Although direct sulfonation with sulfur trioxide or chlorosulfonic acid without solvent was found possible, isolation of the product as the sodium salt is indicated by color and filtration problems. Use of a chlorinated solvent permits isolation of the alpha-sulfo acid  $\text{RCH}(\text{SO}_3\text{H})\text{CO}_2\text{H}$ . Sulfonation of stearic acid with dioxane sulfur trioxide yielded a nearly colorless alpha-sulfostearic acid.

Sodium alpha-sulfopelargonic acid was found to have only limited surface activity, but the octyl ester is a "very efficient" wetting agent, according to this report. (Wetting time: four seconds at 0.05 per cent, instantaneous at one per cent concentration.)

Alpha-sulfonation of oleic acid was not successful. However, substituted stearic acids derived from oleic or elaidic, (such as phenyl, 9,10-dichloro, and 9,10-dihydroxystearic acids) were alpha-sulfonated with dioxane sulfur trioxide.

Compared with the sodium salts of alpha-sulfostearic acid, substitution by the phenyl group in-

creased solubility and slightly decreased c.m.c. Disodium alpha-sulfophenylstearate was found to exhibit good detergent and foaming properties in hard water.

Substitution of two chlorine atoms in the hydrophobic chain increased solubility. Best foaming properties were found in disodium 9,10-dichlorosulfostearate.

Substitution of two hydrophilic hydroxyl groups markedly increased solubility and c.m.c., according to the authors. Disodium salts from the low and high melting forms of 9,10-dihydroxystearic acid have poor wetting and detergent properties but moderately good foaming power.

### Nonionics for Glasses

Nonionics are the most effective synthetic detergents for removal of fatty soil from glass, according to a paper by J. C. Harris, R. M. Anderson, and J. Satanek, Monsanto Chemical Co., Dayton, O. Presented by Mr. Harris, the paper is entitled "Removal of Soil from Glass—By Surfactants and Surfactant/Builder Combinations."

Molar ethylene oxide (EO) ratio has a decisive influence on detergency. In combination with N-dodecanol as the hydrophobe a 10 EO ratio was found to be the optimum for peak soil removal. A 15 EO ratio tends to impair effectiveness of the product. Various hydrophobes were tried and hydrocarbon chain length was found to

determine the degree of their effectiveness.

Use temperature is an important factor in detergency. Non-ionics function at peak efficiency as soil removers when used in baths closely approaching their cloud points, according to Mr. Harris. Samples with high cloud points were therefore the best soil removers.

Alkyl chain length appears to determine detergency of the alkyl benzene sulfonate type surface active agents. Pentadecylbenzene sulfonate was found the most effective detergent in this series. An acid pH was the most favorable and a neutral one least favorable to the efficient soil removal by anionics. Detergency of anionics is aided considerably by the presence of inorganic builders, but efficiency of this combination rarely exceeded soil removal by solutions of sodium tripolyphosphate alone. Effect of builders may be attributable to lowering the c.m.c. of the detergent solution and speeding soil solubilization.

In certain instances 10 EO surface active agents were found to gain in detergency by addition of sodium tripolyphosphate.

Summing up, Mr. Harris stressed the need for extreme care in the selection of the active ingredients intended to make up a detergent for use over a wide temperature spectrum.

### Modern Soap Drying

Applied to toilet and laundry soap drying modern vacuum drying methods effect considerable savings in labor, steam, and power and improve the product when compared with conventional chip drying methods. This point was documented in a paper entitled "New Vacuum Drying and Plodding Processes for Toilet and Laundry Soaps," presented by John W. McCutcheon, John W. McCutcheon, Inc., Morristown, N. J., consulting firm.

Conventional dryers apply high temperatures to effect mois-

(Turn to Page 114)



J. C. Harris

# The First Forty Years of DuBois

**T**O DAY'S DuBois Chemicals, Inc. is the 1960 development of the infant DuBois Soap Company which the late T. V. DuBois established in Cincinnati in 1920.

The forty years of DuBois' growth since then have seen changes and expansion typical of the best aspects of the American industrial scene. Employment has grown from one man to more than a thousand. Manufacturing has broadened from virtually nothing initially to the present four modern plants, at Cincinnati, East Rutherford (N. J.), Dallas and Los Angeles, with Canadian operations initiated in the present year. The organization of product-educated field service representatives approaches 600 in number. The staff of technical service men is functionally departmentalized for best application in the diverse fields of usage served by DuBois.

And there are indeed not very many parts of American business and industry which are not served by DuBois, in one way or another. To meet this situation, the company's organization is made up of four main divisions: institutional, industrial, food and transportation.

The institutional division concerns itself with culinary and environmental sanitation in restaurants, hotels, hospitals, clubs, schools, and in all places where human beings live, sleep and eat together in numbers. Much of DuBois' progress in this division has been in the washing of dishes and cooking utensils, where the company has not only perfected all three basic types of machine dishwashing detergents (sequestering, high pH sustention and halogenated) but has also developed compact and simplified devices for the electronic control of the supply of

**From a one man company launched in 1920 by the late T. V. DuBois, the Cincinnati based firm has expanded to the point where it has over 1000 employees and four plants**

detergent to the dishwater, so that there is never wastefully too much and never hazardously too little. Beyond this, DuBois successfully handles the old problem of what to do about water spotting of washed ware rinsed with plain water. Water spotting is overcome by infusing into rinse lines, automatically and under precise control, a few hundredths of a percent of a suitable surface tension depressant so that the rinse water flattens out to an incredibly thin, uniform film which, on drying, leaves no spots, streaks or ghosts from the rinse water itself. In the past, this was particularly a problem on glassware and silver. Now it worries no one.

Where washing of dishes or utensils is done manually, DuBois similarly manufactures compounds

to meet institutional heavy duty needs. Such products contrasted sharply with quite different formulations proper to a household use product, a field which DuBois has shunned, feeling its forte is a specialized service to commercial establishments. Besides, reckons DuBois, the housewife is already being served by the titans of the soap industry.

The DuBois institutional division is also responsible for the company's entire floor treatment program, which comprises products for floor cleaning and floor waxing, with both true soaps and new synthetics (as well as true waxes and waxy synthetics) being included. For bathroom cleaning in hotels, the "paste scouring powder" which DuBois first sold as far back as the 1930's has been modernized, both

**Present headquarters of DuBois Chemicals, Inc., at 634 Broadway, Cincinnati 6. In addition to executive and sales headquarters, building houses research laboratories.**





T. V. DuBois



Charles A. DuBois



Louis Lerner

physically and chemically, year by year. The changes in formulation have not altered the safety of the product on maids' hands for which it has always been noted. Now, added to this, are the startling tri-phase liquid detergents, some of them pushing vigorously into fields long thought to be the exclusive domain of the older "strong" cleaners.

With equal forwardness, the industrial division has brought DuBois service ideas to such diverse fields as the chemical compounding of products for paint spray booths, simpler methods for preparing metal to accept and hold paint, and the very complex problem of stripping paint from places where it is not wanted! DuBois took a prominent part in the advance from the ancient "caustic and creosol" ideas which had held the fort for a long time but had become less and less satisfactory as the organic coatings became more and more sophisticated. In rubber manufacture, in paper mills, in public utilities, both gas and electric, DuBois again has sought out the specialized problems which had not been solved and has produced workable new answers — great improvements over the past — in a gratifying number of instances.

One DuBois contribution has been the work done on a wide variety of spray and blast devices, both pressure and lave types, for automatic cleaning of the insides of tanks and vessels. The company

is frank to say that its real interest lies in the supplying of the chemical detergents to accomplish the cleaning or the stripping or the rust-proofing or the sanitizing, as the case may be, and that its mechanical and electronic equipment has been developed as a means to that end. It has, nevertheless, resulted in the setting up in Cincinnati of a unified center of information, supply and service tank cleaning procedures which the company feels has been of material assistance to a great many of its customers.

The food industry division works with cleaning, sanitizing and bottle conveyor lubrication in plants producing milk, soft drinks, beer, baby food, grape juice, wine, peanut butter, cheese, margarine, salad dressing, meat, poultry, sea-

food, canned goods generally, bread, cake . . . and just about everything normally eaten or drunk by people or animals (pet food and agricultural plants), as well as the cleaning operations in connection with the production of drugs, hormones, serums and whatnot used by sick people, prescribed by physicians, and required by hospitals.

Since Americans seem always to be going from one place to another, and are forever buying things shipped in from some place else, or are sending their own production out to other cities or states, the moving of people and things comes to be a vast enterprise, lumped by DuBois into an overall transportation division.

This section is responsible for cleaning and related operations

View of the loading docks at plant of DuBois Chemicals in East Rutherford, N. J. Plant was opened in 1958. It provides 55,022 square feet of floor space.



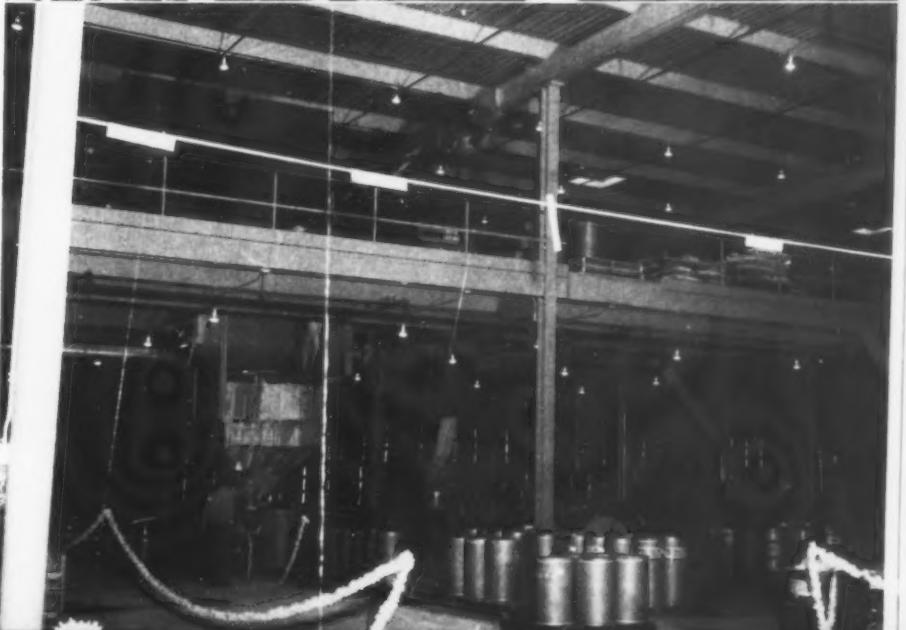
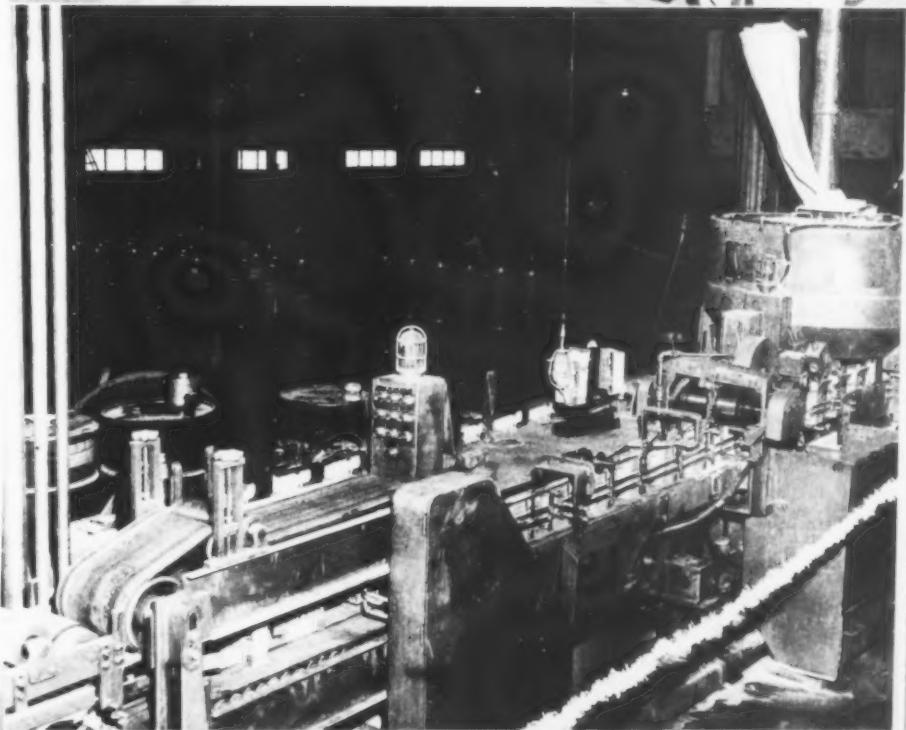
Photos at right are of DuBois Chemicals plant in E. Rutherford, N. J. Lift truck, top, stacks pallets of cases of "D-Lite" hand dishwashing compound in warehouse area. Small packages of "Kloro Kol" for washing plastic dishware are filled on unit in center photo. Drum storage and filling (left, rear) is shown at E. Rutherford plant in bottom photo.

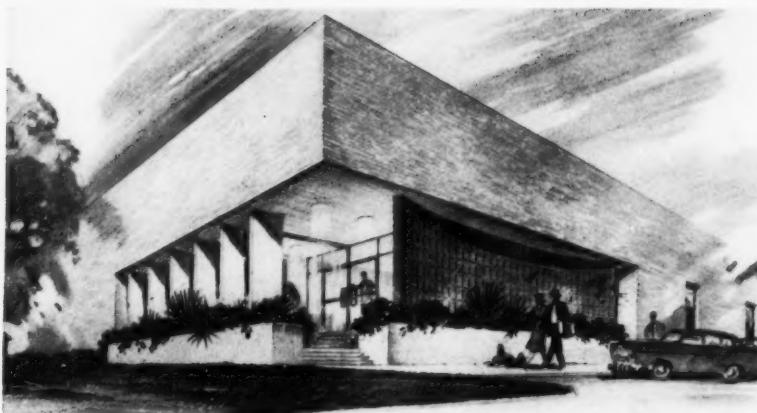
on steamships and railroads, airlines, truck fleets, river barges, bus lines, private automobiles (so far as they come into the new automatic car washeries for weekly baths), and in general for nearly all transportation beyond the bicycle built for two and the surrey with the fringe on top.

Many of the operations here range pretty far afield from straight "cleaning." Acid, alcohols, organic solvents including chlorides and fluorides, urea and literally scores of unpredictable raw materials find their way into materials which deoxidize the dulled aluminum surfaces of aircraft or decontaminate the holds of vessels or strip unwanted carbon deposits from pistons or cylinder liners of locomotive diesel engines or of piston powered planes, or do the quite different overhaul cleaning jobs required on the brilliant new jets. Particularly in transportation cleaning, the situation is faced that immediately contiguous surfaces of the plane will be of utterly dissimilar materials—a window and its surrounding metal area, for example,—and therefore the rationale of cleaning must consider at times the needed protective measures for surface A while surface B is being cleaned, and so forth.

None of these developments came overnight. Beginning with the company's establishment in 1920, growth was manifested year by year, but it was slow at first, because the organization was new and small, and there was neither money nor technical manpower to bring about any rapid production of new developments.

In the early 1930's however, T. V. DuBois, founder and (until his death in 1957) president, moved to strengthen this area. One of the early technical department





Corner of the recently opened DuBois plant in Dallas, Tex. Plant consists of one and one-half story manufacturing facility, laboratory and offices. Plant, of 30,000 square feet, is on Central Expressway south of Loop 12.

additions was a chemical engineer, Samuel J. Miller, now vice-president (technical) of the company, responsible for technical and production aspects of the business. A gradually expanded chemical research and development program greatly accelerated research and brought bright results in dishwashing, in emulsion cleaning, in food plant operations and in steam cleaning. As time has gone by, this technical department fecundity has continued apace, helping to move the company into more and more areas of its chosen four-divisional fields of function.

In 1960, DuBois is one of the foremost examples of sales by service,—including most particularly the work of a mobile corps of specialists in various fields. These are dispatched from one or another of the DuBois plants (though predominantly from Cincinnati because of its central location, supported by transportation services putting a man wherever needed in the United States in a matter of hours by air or overnight by rail in most cases.)

Although DuBois is departmentalized for efficiency, the departments are no strangers to each other. A strong spirit of "all for one and one for all" carries over unabated from the days of T. V. DuBois, and manifests itself in an almost collegiate esprit de corps and in team play which makes the work of all concerned both pleasurable and more productive of good for the customer.

Management of DuBois is in the hands of long time company men still at vigorous age levels. As chairman of the board and as president, respectively, are Charles A. DuBois, son of the founder, and Louis Lerner who has been with the company since the end of its first decade and more. Directing sales (under Mr. DuBois who heads this) are three vice-presidents, C. C. Hargadine, A. Howard Mount and Ateo Bulino, and these five men, with Miller already mentioned, make up top management, day by day. Active with them, especially in planning, is vice-chairman

Captain William Nelson. Over all, of course, is the 13-man board which meets every other month, and which includes a strong representation of men from law, finance and industry, as well as Messrs. DuBois, Lerner, Miller, Mount and Hargadine from the officers of the company.

This brings out, too, the interesting fact that employee ownership through stock holding is very strong in DuBois. Even though the company is the only one in its field having its shares listed on the New York Stock Exchange, and is of course publicly owned accordingly, a more or less round half or more of the shares are owned by people who are everyday working DuBois people,—officers, salesmen, clerical and production workers.

Company people view DuBois as a surely continuing growth organization. The T. V. DuBois spirit of aspiration bolstered by hard work, the abounding fiscal health of the corporation, the scientific inquisitiveness and persistence of DuBois research, and the zeal and intelligence of the company's sales program (now an accomplished fact internationally in Canada, and in much of Latin America), and the care and judgment

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Quality control laboratory at E. Rutherford, N. J., plant of DuBois Chemicals. Standing at far end of table is Samuel J. Miller, technical vice-president.



# Detergent Patents Service

By John W. McCutcheon

Consultant  
Morristown, N. J.

**A**PATENT represents essentially an agreement between an individual inventor and government, granting the individual a monopoly over a limited period for purposes of commercial development. In return for this privilege, the idea must be illustrated and its crux precisely stated so that, at the end of the contractual period when the patent has expired, others within the country covered by the patent may use the idea.

Many ramifications exist within this broad definition. For example, international agreements permit the inventor to obtain patent protection in a number of countries provided he makes any foreign application within one year after his initial domestic application. This reciprocal agreement is intended to prevent the pirating of ideas between countries. While such arrangements generally work to the benefit of the inventor they may do the reverse under certain circumstances. For instance, an inventor in the United States may apply for a U. S. patent and within one year also file an application for a British patent. The British patent may be issued quickly while the original U. S. patent, for a variety of reasons, may not be granted for years. The author, for example, had a British patent granted six years ahead of its U. S. counterpart. Such unfortunate timing may have serious consequences, since the disclosure submitted for a patent application abroad must, under international agreement, be identical with that submitted for

the domestic patent. Thus early publication of the foreign disclosure enables many people to "look over the inventor's shoulder" and gain advance knowledge of what he has in mind.

*Chemical Abstracts*, best and most complete source of world wide information on chemical patents, abstracts only patents granted to residents of the country in which the patent is actually granted. Cross references to patents are made in some instances, but to prevent much unnecessary duplication *Chemical Abstracts* must adhere to its self imposed limitations. However, this policy eliminates any priority value of information on those U. S. patents which have actually been revealed in foreign countries months and even years

prior to issue and publication in the United States.

The value of advance information is recognized by large internationally organized concerns. Their patent departments maintain private patent services, based on reports regularly supplied by their foreign affiliates keeping them abreast of patent developments abroad. This is a costly and time consuming undertaking.

Detergents, fats and oils patents issued this summer in Japan and listed in Table I, will illustrate our point. Numerals in first column indicate class in which patent was filed: (1) Soaps and glycerine; (2) Detergents; (3) Fats and oils; (4) Fatty acids and derivatives.

Of the 16 patents listed in

Table I

Class	Patent #	Date of issue	Title
(2)	3008*	April 4	Process for preparing surface active agents.
(2)	3023	April 4	Synthesis of detergent.
(4)	3038	April 4	Malemization of monoolefinic unsaturated fatty acids and their esters.
(4)	4123	April 22	Preparation of acid amides and alcohols by ammonolysis of organic esters.
(4)	4124	April 22	Preparation of sebacic acid and octanol—2 from castor oil.
(2)	4204	April 25	Manufacture of complex type of surfactants.
(4)	4207*	April 25	Preparation of aliphatic carboxylic acid.
(1)(2)	4331*	April 26	Soap and detergent compositions.
(2)	4762*	May 9	Detergent compositions.
(2)	4956	May 12	Preparation of surfactants.
(2)	5059	May 13	Method of making quaternary ammonium salts.
(2)	6534*	June 6	Surface active compositions.
(2)	6873	June 10	Preparation of cacao butter like product.
(4)	6979*	June 13	Interesterification method.
(2)	8219	June 30	Method of solubilizing water soluble surfactants in solvent.

\*Previously issued or applied for in other countries.

this table, six will probably not be abstracted by *Chemical Abstracts* because they duplicate patents already issued or applied for in foreign countries. The remaining ones may not appear for another three or four months, which is not a reflection on *Chemical Abstracts*. The author served as one of its abstractors for a number of years and knows something of the huge task involved in abstracting and classifying the ever growing volume of important chemical data. No chemist can afford to dispense with such help.

However, the complexity of the problem and existing needs has engendered a number of supplementary services designed to assist certain segments of industry or to collect and correlate specialized information. Examples are Pergamon Institute; National Science Foundation; Technical Information Corp.; and others. However, we know of no source expressly organized to give complete and up-to-date patent information on oils and fats. This statement excludes abstract services, such as the "New Patents" section in *Soap and Chemical Specialties* magazine (U. S. patents only), the "Abstracts" section in the *Journal of the American Oil Chemists' Society*, and others.

When one examines the purpose of patents one will realize why they are valuable and to

whom. All technical literature may be divided into two main types: (1) Reviews are primarily written to summarize and evaluate existing information. Books usually fall into this category. (2) Actual reports which we will call "informative" articles supply data obtained experimentally. Sometimes a review article is hard to distinguish from a first hand report, except by the wording. Phrases such as "it is said," "it has been reported" or "Mr. X states" occur in a review. When the author writes "but we found," "our laboratory showed," or "we do not agree, because"—he is supplying fresh information. Informative articles may be subdivided according to their purpose. For example, an article may be written to sell pumps. It could be an advertisement, a source of information no technician can afford to overlook today. The article may be written as a public service as part of a project sponsored by a group or association. Finally, an informative article may be authored under compulsion such as the contents of a patent.

An inventor would like to avoid the description of his invention if he could. He knows, however, that his claims to invention are valid only if they can be proved by the disclosure. His claims represent the legal key to the invention.

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**Figure 1**

PATENT #		2,928,867	COUNTRY:	U. S. A.	DATE:	3/15/60	FILE #:	1
PAT. OFF. CLASSIFICATION:		260-505	APPLICATION #:	480,069	DATE OF APPLICATION:	1/5/55		
DRAWINGS:		✓ YES	PAGES:	4	CLAIMS:	13	TYPE:	Process
							Composition of Matter (C)	Other (O)
FILE CLASSIFICATION:		Soap and Glycerine (S) Detergents (D)				EXPIRATION DATE (Nominal):		
INVENTOR:		J. C. Kirk & E. L. Miller				ASSIGNEE:		
SUBJECT:		Preparation of Stable Alkaryl Sulfonates				Continental Oil Co.		
ABSTRACT: When alkyl aryl hydrocarbons particularly of the dodecylbenzene type are sulfonated with SO <sub>3</sub> , they frequently produce sulfones, sulfonic anhydrides etc., the presence of which produce turbid solutions and cause the acid reversion of the neutralized m. product to values below pH 7. According to Mitscherlich, Ann-12, 309-310 (1834), "di-phenyl sulfone is insoluble in alkali, soluble in acids and on heating with sulfuric acid forms an acid which gives water soluble salts." This patent covers the addition of 1 to								
THE INFORMATION CONTAINED ON THIS CARD IS CONFIDENTIAL TO THE RECIPIENT AND IS SUBJECT TO THE RECIPIENT'S AGREEMENT TO HOLD IT IN CONFIDENCE. IT IS NOT GUARANTEED AND NO RESPONSIBILITY IS ASSUMED FOR ANY ERROR THEREIN.								
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## New Surfactants Listed . . .

By John W. McCutcheon

Part II

## Detergents & Emulsifiers . . .

Trade Name	Manufacturer	Class and Formula	Main Uses	Form	% Conc.	Type	Remarks
Conco Formula 10 Concogel	Continental Chemical Co. Continental Chemical Co.	A formulated dishwashing product Sodium N-methyl-N-oleyl taurate	Detergent Detergent Wetting Dispersant Detergent Wetting Dispersant	Liquid Gel Flake	37% 14%	Anionic Anionic	A high foaming liquid dishwashing detergent. Textile wet processing agent; also used in metal cleaning and leather processing.
Concogel Dry	Continental Chemical Co.	Sodium N-methyl-N-oleyl taurate	Detergent Wetting Dispersant Detergent Wetting Dispersant	Flake	67%	Anionic	Primarily for wetting and dispersing insecticides such as DDT, etc. A concentrated form of "Concogel."
Concogel Extra	Continental Chemical Co.	Sodium N-methyl-N-oleyl taurate	Detergent Wetting Detergent	Liquid	32%	Anionic	Primarily for metal cleaning compounds, textile processing.
Conco NI-100	Continental Chemical Co.	Polyoxyethylene alkyl phenol	Detergent	Liquid	100%	Nonionic	General purpose emulsifier, detergent and emulsifier for mineral oils, fatty acids, waxes, synthetic rubber latex emulsions, natural rubber latex emulsions, etc.
Conco NI-300	Continental Chemical Co.	Polyoxyethylated fatty alcohol	Emulsifier Stabilizer Dispersant Solubilizer	Wax	100%	Nonionic	Emulsifier for mineral oils, fatty acids, waxes, synthetic rubber latex emulsions, natural rubber latex emulsions, etc.
Conco PXS SXS	Continental Chemical Co.	Potassium xylenesulfonate Sodium xylenesulfonate	Detergent Detergent Wetting	Liquid	25%	Anionic	Solubilizing agent for light and heavy duty liquid detergents.
Conco Sulfate A	Continental Chemical Co.	Ammonium lauryl sulfate	Detergent Detergent Detergent Detergent Wetting	Liquid Liquid Liquid Powder	30% 30% 90%	Anionic Anionic Anionic	Shampoos, bubble baths, cosmetic formulations.
Conco Sulfate M	Continental Chemical Co.	Magnesium lauryl sulfate	Detergent	Liquid	30%	Anionic	Household detergents, cosmetic formulations.
Conco Sulfate P	Continental Chemical Co.	Potassium lauryl sulfate	Detergent	Liquid	30%	Anionic	Household detergents, cosmetic formulations.
Conco Sulfate WA Dry WE	Continental Chemical Co.	Sodium lauryl sulfate	Detergent	Liquid	30%	Anionic	High active for pigment dispersion, bubble baths, etc.
Conco Sulfate WM	Continental Chemical Co.	Ammonium lauryl ether sulfate	Detergent Detergent Detergent Detergent Emulsifier	Liquid Paste Liquid Wax	30% 100% 100% 100%	Anionic Anionic Anionic Nonionic	Cosmetic formulations, household products.
Conco Sulfate XT Condensate CO	Continental Chemical Co.	Sodium lauryl sulfate Coconut acid diethanolamide	Foam Stabilizer Detergent Emulsifier	Liquid	100%	Nonionic	Latex stabilization, household products.
Condensate PI	Continental Chemical Co.	High purity lauric isopropanolamide	Detergent Emulsifier	Liquid	QC	Nonionic	For textile processing, floor cleaners, etc.
Condensate PJ	Continental Chemical Co.	Coconut acid diethanolamide	Detergent Emulsifier	Liquid	100%	Nonionic	Liquid dishwashing compounds, shampoos, bubble baths; viscosity aid.
Condensate PL Special Condensate PM	Continental Chemical Co.	Lauric diethanolamide High purity myristic diethanolamide	Detergent Foam Stabilizer	Wax	100%	Nonionic	Primary component of low foaming floor cleaning compounds; textile and laundry processing products.
Condensate PN	Continental Oil Co.	Blend coconut oil and coconut acid diethanolamides	Detergent	Liquid	100%	Nonionic	Shampoo and bubble bath base.
Condensate PS Condensate PZ	Continental Oil Co. Continental Oil Co.	Coconut oil diethanolamide Modified stearic diethanolamide	Detergent Opacifier	Liquid Wax	100% 100%	Nonionic Nonionic	Primary for floor cleaning formulations.
Conoco DBCL	Continental Oil Co.	Dodecylbenzyl chloride	Detergent Intermediate	Liquid	94%	Cationic	Textile processing, leather processing, etc. Good acid stability. For deodorants, cream rinses and other cosmetic formulations.
Conoco LS-320 Conoco TEA-50	Continental Oil Co. Continental Oil Co.	Dodecylbenzene sulfonic acid Dodecylbenzene triethanolamine sulfonate	Detergent Liquid Detergent Intermediate	Liquid Liquid Intermediate	95% 50%	Cationic Anionic	Reacts with tertiary amines to form cationic surface active agents—quaternary ammonium salts for sanitizer preparations, textile softeners, anti-static agents.
							Made by using gaseous SO <sub>2</sub> which produces a very low salt content product.
							Made from Conoco Sulfonic Acid 400.

## Detergents & Emulsifiers . . .

Trade Name	Manufacturer	Class and Formula	Main Uses	Form	% Conc.	Type	Remarks
Conoco Toluene Sulfonate	Continental Oil Co.	Toluene sulfonate	Solubilizer	Liquid	40%	Anionic	Heavy duty detergent intermediate.
Conoco Xylene Sulfonate	Continental Oil Co.	Xylene sulfonate	Solubilizer	Liquid	40%	Anionic	Heavy duty detergent intermediate.
Corasil RT	E. F. Drew & Co.	A blend of sulfated oil and coconut oil	Softener	Liquid	85%	Anionic	Synthetic softener and plasticizer. Antistatic.
DBT	Fine Organics, Inc.	N-dodecyl benzyl NNN trimethyl ammonium chloride	Algaecide Germicide	Liquid	50%	Cationic	For cooling systems, non-volatile.
DDBSA	Monsanto Chemical Co.	Dodecylbenzene sulfonic acid	Detergent Intermediate	Liquid	88%	Anionic	Low cost base for liquid and dry detergent formulations.
Defoamer 23	Baloid Div. National Lead Co.	Substituted aromatic sulfonic acid	Defoamer	Powder	100%	Anionic	Defoam oil well drilling mud.
Dehyquart C	Fallek Products Co.	Lauryl pyridinium chloride	Wetting	Paste	80-82%	Cationic	Cleansing agent, disinfectant, wetting agent with an anti-rust effect.
Dehyquart C Cryst.	Fallek Products Co.	Lauryl pyridinium chloride	Wetting	Powder	90-94%	Cationic	Cleansing agent, disinfectant, antistatic agent for cosmetic preparations.
Dehyquart D	Fallek Products Co.	Lauryl pyridinium chloride	Wetting	Liquid	52-55%	Cationic	Wetting agent for acids, emulsion breaker, wetting agent with anti-rust effect.
"Delta" Protein	Chemurgy Div., Central Soya Co.	Mild alkali-treated soy protein	Emulsifier Stabilizer	Powder	100%	Amphoteric	Thickener for synthetic latices, suspending agent for pigments, and a protective colloid.
Dergon SW	Arkansas Co.	Modified alkanolamine fatty acid condensate	Detergent	Liquid	90%	Nonionic	Textile detergent, primarily for use in scouring and fulling of wool.
Dergon T	Arkansas Co.	Fatty acid ester sulfate plus alkaline builder	Detergent	Liquid	60%	Anionic	Textile scouring agent for wool and acetate.
Dergopen RN	Arkansas Co.	Polyoxethylene ether alcohol	Detergent Wetting	Liquid	40%	Nonionic	Textile surface active agent.
Detanol PH	Commonwealth Color & Chemical Co.	Sodium salt of an alkyl sulfonate	Detergent Wetting		18%	Anionic	Textile.
Detergent 1020	E. F. Drew & Co.	Coconut oil amine condensate	Detergent	Liquid	100%	Anionic	All purpose cleaner designed for use with high concentrations of phosphate salts.
Detergent Concentrate AL	Onyx Chemical Corp.	A formulated product	Detergent Wetting	Liquid	64%	Amphoteric	Industrial detergent. Anionic at alkaline pH, cationic at acid pH. Compatible with BTCA quaternaries on acid side. Preparation of liquid cleaner-sanitizers and disinfectants.
Dewaxer	Vestal, Inc.	Formulated synthetic detergent	Emulsifier	Liquid	20-3%	Anionic	Heavy-duty detergent for removal of wax or synthetic floor finishes.
Dianol CFA	Quaker Chemical Products Corp.	Blended anionic and nonionic components	Detergent	Liquid	99%	Anionic	Wool fulling and scouring agent.
Diazopon AN	Antara Chemicals, division, General Aniline & Film Corp.	Polyoxyethylated fatty alcohol	Dispersant Stabilizer	Liquid			Dispersing and stabilizing agent in naphthol dyeing to improve rubber fastness. Used to dissolve fast color salts and to stabilize them in solution.
Diazopon SS-837	Antara Chemicals, division, General Aniline & Film Corp.	High-molecular-weight condensation product	Dispersant Stabilizer Solubilizer	Liquid			Water-soluble surfactant, effective at elevated temperatures. Anticrock and soaping agent for naphthol dyes. Solubilizes fast color salts and stabilizes them in the resulting solution. Accelerates diazotization of fast color bases.

## Detergents & Emulsifiers . . .

Trade Name	Manufacturer	Class and Formula	Main Uses	Form	% Conc.	Type	Remarks
Diphosol M	Ciba Co.	Nonionic condensation product	Dispersant Emulsifier	Liquid	90%	Nonionic	Emulsifier and dispersant especially for mineral oils; very stable to acids and alkali; oil soluble.
Diphosol OL	Ciba Co.	Nonionic condensation product	Emulsifier	Paste	90%	Nonionic	Emulsifier especially for olein and low temperature use.
Dispersant NI-4	Oronite Chemical Co.	Nonyl phenoxy polyethylene ethanol	Emulsifier	Liquid	100%	Nonionic	Oil soluble, water-in-oil emulsifier.
Dispersant NI-6	Oronite Chemical Co.	Nonyl phenoxy polyethylene ethanol	Emulsifier	Liquid	100%	Nonionic	Oil soluble, water-in-oil emulsifier.
Dispersant NE 10	Oronite Chemical Co.	Nonyl phenoxy polyethylene ethanol	Detergent Wetting	Liquid	100%	Nonionic	Water soluble; a low sudsing detergent particularly suitable for compounding low sudsing finished detergents.
Dispersinol C	Arkansas Co.	Highly sulfated fatty derivatives	Dispersant Leveler	Liquid	50%	Anionic	Textile dye bath assistant.
Dispersol A	Imperial Chemical Industries Ltd.	Fatty alcohol ethylene oxide condensate in water	Emulsifier	Liquid	Nonionic	Acid dye bath scouring agent especially for emulsifying traces of olive oil.	
Dispersol T	Imperial Chemical Industries Ltd.	Disodium salt of methylene bis (naphthalene sulphonic acid)	Dispersant	Powder	Anionic	General purpose dispersing agent. Scale modifier for evaporators.	
Dispersol VL	Imperial Chemical Industries Ltd.	Fatty alcohol ethylene oxide condensate in water	Dispersant Stabilizer	Liquid	Nonionic	Dye bath assistant.	
Dispersol V	Van Dyk & Co.	Polyoxyalkylene alkyl laurate esters	Dispersant	Solid	100%	Nonionic	Soil remover; in cleansing creams and dispersing agent in makeup items.
DME	Antera Chemicals, division General Aniline & Film Corp.	Nonylphenoxypoly(ethyleneoxy) ethanol	Emulsifier Solubilizer	Liquid	60%	Nonionic	Water-soluble surfactant for low-solids oil-emulsion systems. Effective in all types of water, from fresh to saturated saline. Emulsifier for incorporating up to 50% of crude or refined oil into a drilling mud. Solubilizer and desorptive agent for increasing the effectiveness of fluid-loss-control additives, such as starch and CMC.
DMS	Antera Chemicals, division General Aniline & Film Corp.	Nonylphenoxypoly(ethyleneoxy) ethanol	Dispersant Solubilizer	Liquid	60%	Nonionic	Water-soluble surfactant for use in aqueous drilling fluids. Effective at high temperatures and at high concentrations of electrolytes. Used to improve the flow properties of weighted muds and to inhibit the swelling of clays and formation of solids. Also to increase the solids-carrying capacity of muds, to improve solids removal, and to protect producing formations. Solubilizer and desorptive agent for increasing the effectiveness of fluid-loss control additives, such as starch and CMC.
Drewsoft 100	E. F. Drew & Co.	Modified glyceryl monostearate	Softener	Flake	100%	Nonionic	Soften for cotton synthetic fibers and blends. Stable to acids, alkalies, hard water and other electrolytes. Compatible with aminoplast and most other resins. Non-yellowing.
Drilling Milk	Aquaneess Dept. of Atlas Powder Co., distributed by Magobar	Polyoxyethylene sorbitan tall oil ester	Emulsifier	Liquid	Anionic	Emulsifier for oil-in-water emulsion drilling muds.	
Druterge KBE 200	E. F. Drew & Co.	Anionic/nonionic blend	Detergent	Liquid	40%	Anionic	For kier boiling, Hennekin boil-off. Dyeing assistant.

## Detergents & Emulsifiers . . .

Trade Name	Manufacturer	Class and Formula	Main Uses	Form	% Conc.	Type	Remarks
Drysol-95	Pilot Chemical Co. of California	Sulfonate	Solubilizer	Powder	96%	Anionic	Hydro trope-solubilizer for detergent formulations
DU-JET	DuBois Chemicals, Inc.	Built detergent	Detergent	Liquid	Ampho-	teric	Metal cleaning operations.
DU-FOME	DuBois Chemicals, Inc.	Mixed detergents	Detergent	Liquid	Anionic	Hand dishwashing.	
Duowet	Burkhart-Schier Chem. Co.	Diethyl sodium sulfosuccinate	Wetting Rewetting	Liquid	25%	Anionic	Wetting and rewetting agent for general textile use; Concentration varies to order.
Duponol QC	E.I. du Pont de Nemours & Co.	Technical sodium lauryl sulfate	Detergent	Liquid	Anionic	Shampoo base.	
Dycleer 98	Apex Chemical Co.	Polyoxyethylene compound	Dispersant	Liquid	24%	Nonionic	Dispersant and detergent for vat dyes.
Dymulsifier	Maher Color & Chemical Co.	Fatty acid esters; fatty amides	Dispersant	Liquid	50%	Nonionic	Used in conjunction with acetate and insoluble dyes as dispersant and wetting agent.
Rynesol R-50	Amalgamated Chemical Corp.	Sodium salt of an alkyl aryl sulfonate	Detergent Wetting	Paste	50%	Anionic	Used as penetrant and detergent in scouring and dyeing of all types of fabrics.
Dynesol T-70	Amalgamated Chemical Corp.	Ethanolamine salt of an alkyl aryl sulfonate	Dispersant Wetting	Liquid	70%	Anionic	Used as general wetting and detergent agent. Pasting agent for acetate colors—eliminates tanning.
Econol 70	Essential Chemicals Co.	Polyethylene glycol ester	Wetting Detergent Emulsifier Detergent	Liquid	100%	Nonionic	Used as emulsifier in agricultural spray formulation, mineral solvents.
Econol 376	Essential Chemicals Co.	Blend of nonionic and emulsifiers	Wetting Detergent	Liquid	100%	Nonionic	For low suds cleaning formulations, automatic floor scrubbers, etc.
Econol 608	Essential Chemicals Co.	Foam stabilized ethylene oxide condensate	Wetting Detergent	Liquid	100%	Nonionic	Base for high sudsing cleaners.
Econol 628	Essential Chemicals Co.	Alkanolamide	Wetting Detergent	Liquid	100%	Nonionic	Good viscosity, foam stability and hard water tolerance, moderate alkalinity tolerance. For general purpose cleaners, floors, dishwashing, car washing, etc.
Econol 3060	Essential Chemicals Co.	Lauric diethanolamide	Wetting Detergent	Paste	100%	Nonionic	Foam stabilizer for dishwashing, shampoo, cosmetic formulations.
Eldefoam 1961	Foremost Food & Chemical Co.	-	Defoamer	Liquid Liquid Liquid	Nonionic Nonionic	"1961" is defoaming agent for various latex systems, especially butadiene styrene. "892" same as above and for general industrial use. "Eldefoam 3503" is anti-foaming agent for general use and in adhesives.	
Emcol 14	Witco Chemical Co.	Polyglycerol ester of a fatty acid	Emulsifier	Liquid	100%	Nonionic	Oil soluble emulsifier for water-in-oil emulsions in aerosols.
Emcol H-53	Witco Chemical Co.	Anionic-nonionic blend	Emulsifier	Liquid	Anionic	Emulsifier for paraffinic agricultural spray oils.	
Emcol H-300X	Witco Chemical Co.	Blend of oil soluble calcium sulfonates with polyoxyethylene ethers	Emulsifier	Liquid	Anionic	Emulsifier for chlorinated hydrocarbons and organic phosphate insecticides.	
Emcol H-710	Witco Chemical Co.	Blend of oil-soluble amine sulfonates with polyoxyethylene ethers	Emulsifier	Liquid	Anionic	Low foaming emulsifiers for herbicide emulsifiable concentrates.	
H-714		Alkanolamine salt of an alkyl aryl sulfonate	Detergent	Liquid	60%	Anionic	General purpose detergent for liquid industrial and household products.
Emcol P-1049		Anionic-nonionic blend	Emulsifier	Liquid	100%	Anionic	Oil soluble emulsifier for aliphatic hydrocarbon solvents and degreasing.
Emcol P-5900	Witco Chemical Co.						

## Detergents & Emulsifiers . . .

Trade Name	Manufacturer	Class and Formula	Main Uses	Form	% Conc.	Type	Remarks
Empicol-LZ LZV MLS SLE	Marchon Products Ltd., England, USA Rep. Aceto Chemical Co.	Sodium lauryl sulfate Sodium lauryl sulfate Magnesium lauryl sulfate Magnesium lauryl sulfate Sodium salt of an ethoxylated lauryl sulfate Triethanolamine lauryl sulfate Triethanolamine ammonium lauryl sulfate	Detergent Detergent Detergent Detergent Detergent Detergent	Powder Needles Powder Needles Liquid	92% 88% 92% 90% 30%	Anionic Anionic Anionic Anionic Anionic	Series of detergents for compounding and general cleaning.
TA TP	Emplian AL	Lauric isopropanolamide	Foam Stabilizer	Liquid Liquid	30% 30%	Anionic Anionic	General purpose foam stabilizer.
Emplian AP-100 AQ-100 BP-100 BO-100 CP-100 CQ-100	Marchon Products Ltd., England USA Rep. Aceto Chemical Co.	Polyethylene glycol 1500 mono laurate Polyethylene glycol 400 mono laurate Polyethylene glycol 1500 monoleate Polyethylene glycol 400 monoleate Polyethylene glycol 1500 monostearate Polyethylene glycol 400 monostearate Coconut mono ethanolamide Glyceryl monostearate Glyceryl monostearate Fatty acid alkylol amide	Wetting Wetting Wetting Wetting Wetting Wetting Foamer Emulsifier Emulsifier	Liquid Solid Liquid Liquid Solid Solid Flake Flake	100% 100% 100% 100% 100% 100% 100% 100%	Nonionic Nonionic Nonionic Nonionic Nonionic Nonionic Anionic Anionic	Emulsifiers for cosmetics, floor waxes, etc.
Emplian CM	Marchon Products Ltd., England USA Rep. Aceto Chemical Co.						
Emplian GM (GMS/SE)	Antara Chemicals, division, General Aniline & Film Corp.	Alkylpoly(ethyleneoxy)-ethanol	Detergent Foamer Solubilizer	Liquid	100%	Nonionic	Foam builder.
Emulphogene BC-610	Chemical Developments of Canada Limited Chemical Developments of Canada Limited	Compounded product	Detergent Emulsifier	Liquid Liquid	100%	Nonionic	Foam builder and detergent solubilizer for alkyl-aryl sulfonates. Component of light- and heavy-duty high-foaming detergent formulations. In pulp and paper industry, reduces resin content of chemical pulp in the caustic extraction stage.
Emulphopal HC Emulphopal AM	Reilly-Whiteman-Walton Co. Arkansas Co.	Polyethylene glycol ester Synthetic fatty ester	Emulsifier Emulsifier Detergent	Liquid Liquid Liquid	95% 90%	Nonionic Nonionic	Base for waterless hand cleaners. Emulsifier for agricultural sprays.
Emulsion-OA Emulser CF	Apex Chemical Co.	Modified amine condensate	Emulsifier	Liquid	100%	Nonionic Oils	Emulsification of all types of petroleum oils Removal of oils from wool.
Emulsifier 757	Van Dyk & Co. Van Dyk & Co.	Polyoxyethylene oleate Polyoxyalkylene oleate	Emulsifier Emulsifier	Liquid Liquid	100% 100%	Nonionic Nonionic	Emulsifier for mineral, animal and vegetable W/O type emulsifier.
Emulsynt 410 Emulsynt 1046 1948 1049 1055	Maher Color & Chemical Co.	Alkyl aryl sulfonamide ester	Detergent Emulsifier	Liquid	100%	Anionic	Low foaming detergent for textile and industrial use. Emulsifier for pine oil, dipentene, xylenes and similar solvents.
Estergent	Maher Color & Chemical Co.	Polyglycol fatty acid ester	Detergent Emulsifier	Liquid	100%	Nonionic	Low foaming scouring, cleaning and wetting agent.
Ethoxanol CEX							

## Detergents & Emulsifiers . . .

Trade Name	Manufacturer	Class and Formula	Main Uses	Form	% Conc.	Type	Remarks
Ethyl Cetab	Fine Organics, Inc.	Cetyl dimethyl ethyl ammonium bromide	Germicide	Solid	100%	Cationic	Sanitizer.
Eumulgin 05	Fallek Products Co.	Fatty alcohol polyglycol ether	Emulsifier	Liquid	100%	Nonionic	Emulsifying agent for insecticides, pesticides, cosmetics and floor polishes.
Eumulgin 010	Fallek Products Co.	Fatty alcohol polyglycol ether	Emulsifier	Paste	100%	Nonionic	Emulsifying agent for insecticides, pesticides, cosmetics, floor polishes and in detergents.
Eumulgin B1	Fallek Products Co.	Fatty alcohol polyglycol ether	Emulsifier	Solid	100%	Nonionic	Emulsifying agent for manufacture of waxes and bright-drying emulsions.
Eumulgin 535	Fallek Products Co.	Fatty alcohol polyglycol ether	Emulsifier	Solid	100%	Nonionic	Emulsifying agent for the manufacture of paraffin wax emulsions.
Eumulgin 550	Fallek Products Co.	Mixture of polyglycol ethers	Emulsifier	Liquid	100%	Nonionic	Emulsifying agent for mineral oils and fatty oils.
Eumulgin AT		Mixture of different emulsifying agents	Emulsifier	Liquid	100%	Anionic	Emulsifying agent for concentrates used for pest control.
Eumulgin BT	Fallek Products Co.	Mixture of different emulsifying agents	Emulsifier	Liquid	100%	Anionic	Emulsifying agent concentrates used for pest control.
Facid CE-3	E. F. Drew & Co., Inc.	Vegetable oil ethylene oxide condensate	Detergent	Liquid	100%	Nonionic	Textile detergent for acid fulling and scouring.
Facid X	E. F. Drew & Co., Inc.	Polyoxyethylene ester of distilled fractionated vegetable oil	Emulsifier	Liquid	100%	Nonionic	For print washing, vat and naphthol dyeing, continuous bleaching.
Patchemco	Universal Chemical Corp.	Fatty imidazoline	Antistatic Emulsifier	Liquid	100%	Cationic	Water displacing compound; antistatic agents.
Fixanol C	Imperial Chemical Industries Ltd.	Cetyl pyridinium bromide	Emulsifier	Paste		Cationic	For acidic conditions, acid pickling restrainer, addition agent for rosin/alcohol fluxes.
Fixanol VR	Imperial Chemical Industries Ltd.	Tetradecylypyridinium bromide	Dispersant	Paste		Cationic	Solubility and wetting power greater than "Fixanol C."
Foamasol	Onyx Chemical Corp.	A formulated product	Detergent	Liquid	35%	Anionic	Used for entraining air in concrete, cinder blocks, and preformed concrete slabs.
Fostamide N	Textilana Corp.	Complex amido-phospho salt	Detergent	Liquid	100%	Anionic	Textiles, institutional cleaners, metal cleaners.
Fostamide 3200	Textilana Corp.	Complex amido-phospho salt	Detergent	Liquid	100%	Anionic	All purpose cleaner base.
Fosterge LFT	Textilana Corp.	Organophospho salt	Detergent	Liquid	100%	Anionic	Low foam industrial cleaner base, anti-corrosive.
Fosterge R Acid	Textilana Corp.	Fatty phospho acid	Emulsifier	Liquid	100%	Anionic	Penetrating, emulsifying, anti-corrosion ingredient.
Fosterge RD	Textilana Corp.	Fatty phospho salt	Emulsifier	Liquid	88%	Anionic	Emulsifying agent, penetrant and anti-corrosive agent. See U. S. Patent 2,656,372 & 2,758,093.
Fosterge PC-20	Textilana Corp.	Fatty amido-phospho salt	Emulsifier	Liquid	100%	Anionic	Thickener, anti-corrosive agent, low foam emulsifier.
Gaten FA-1	Antara Chemicals, division, General Aniline & Film Corp.	Foamer	Liquid			Anionic	Foaming agent for air- or gas-drilling oil wells in the presence of moderate water intrusion.
Gaten FA-5	Antara Chemicals, division, General Aniline & Film Corp.	Foamer	Flakes			Nonionic	Foaming agent for air- or gas-drilling oil wells in the presence of moderate water intrusion where the water is saturated salt water.
Genpac	C. B. Dodge Co.	Formulated product	Detergent	Liquid			Heavy duty cleaner for airport and aircraft cleaning.

## Detergents & Emulsifiers . . .

Trade Name	Manufacturer	Class and Formula	Main Uses	Form	% Conc.	Type	Remarks
Glycomul O	Glyco Chemicals Div. Chas. L. Huisking & Co.	Sorbitan monooleate Sorbitan monopalmitate Sorbitan monostearate	Emulsifier Emulsifier Emulsifier	Liquid Beads Beads	100% 100% 100%	Nonionic Nonionic Nonionic	Series of emulsifiers for cosmetic and pharmaceutical use.
L P S	Glyco Chemicals Div. Chas. L. Huisking & Co.	Polyoxyethylene sorbitan monooleate Polyoxyethylene sorbitan monopalmitate Polyoxyethylene sorbitan monostearate	Emulsifier Emulsifier Emulsifier	Liquid Liquid Liquid	100% 100% 100%	Nonionic Nonionic Nonionic	Series of emulsifiers for general use in cosmetics, pharmaceuticals, etc.
Glycoperser O-20	Glyco Chemicals Div. Chas. L. Huisking & Co.	Sorbitan monooleate	Emulsifier	Semi-solid	100%	Nonionic	
L-20		Polyoxyethylene sorbitan monopalmitate	Emulsifier	Powder Flakes	40% 42%	Nonionic	Both products are useful as edible emulsifiers and softening agents.
P-20		Polyoxyethylene sorbitan monostearate	Emulsifier	Solid	100%	Nonionic	Solvents, emulsifiers, deoamers, rewetting agents and detergents.
S-20		Glycol monostearate	Emulsifier Solubilizer	Paste Liquid	100% 100%	Anionic Anionic	General series of emulsifiers for cosmetics foods, etc. Self-emulsifying
Gomar-R V	Northwestern Chemical Co.	Glycol monostearate	Emulsifier	Paste	100%	Anionic	Cosmetic emulsifier and deoamer. Self-emulsifying.
Hallco	C. P. Hall Co.	Polyethylene glycol mono and diesters of lauric, oleic, stearic and ricinoleic acids	Emulsifier Emulsifier Emulsifier	Liquid Liquid Liquid	100% 100% 100%	Anionic Anionic Anionic	Emulsifier and deoamer. Solvent emulsifier. Emulsifier and solvent coupling agent.
	C. P. Hall Co.	Diglycol oleate	Emulsifier	Liquid	100%	Anionic	Solvent emulsifier. Emulsifier and deoamer.
	C. P. Hall Co.	Diglycol laurate	Emulsifier	Liquid	100%	Anionic	Emulsifier and deoamer. Solvent emulsifier.
	C. P. Hall Co.	Propylene glycol laurate	Emulsifier	Liquid	100%	Anionic	Emulsifier and deoamer. Solvent emulsifier.
	C. P. Hall Co.	Glycerol mono ricinoleate	Emulsifier	Liquid	100%	Anionic	Emulsifier and deoamer. Solvent emulsifier.
Hallco CPH-12-A	C. P. Hall Co.	Glycerol mono cocoate	Emulsifier	Liquid	100%	Anionic	Emulsifier and deoamer.
Hallco CPH-32	C. P. Hall Co.	Propylene glycol mono laurate	Emulsifier	Liquid	100%	Anionic	Emulsifier and solvent coupling agent.
Hallco CPH-34-N	C. P. Hall Co.	Glycerol mono laurate	Emulsifier	Liquid	100%	Anionic	Solvent emulsifier and deoamer.
Hallco CPH-35-N	C. P. Hall Co.	Glycerol mono ricinoleate	Emulsifier	Liquid	100%	Anionic	Opacifier and emulsifier.
Hallco CPH-37-N	C. P. Hall Co.	Ethylene glycol mono stearate	Emulsifier	Solid	100%	Anionic	Opacifier and emulsifier.
Hallco CPH-42	C. P. Hall Co.	Methoxy polyethylene glycol (550) laurate	Emulsifier	Solid	100%	Nonionic	Deoamer, rewetting agent and emulsifier.
Hallco CPH-52	C. P. Hall Co.	Propylene glycol mono stearate	Emulsifier	Liquid	100%	Anionic	Emulsifier, solvent; self emulsifying.
Hallco CPH-104	C. P. Hall Co.	Diglycol stearate	Emulsifier	Paste	100%	Anionic	General emulsifier. Self emulsifying.
Hallco Mono and di Esters	C. P. Hall Co.	Mono and diglycerides of edible fats and oils	Emulsifier	Solid	100%	Nonionic	Emulsifiers and deoamers for food and cosmetic industries. Anionic when self-emulsifying.
Herlex	Apex Chemical Co.	Modified aryl alkyl sulfonate	Detergent Wetting	Liquid	25%	Anionic	High foaming detergent and penetrant.
Hi-Form Base LC	Maher Color & Chemical Co.	Aminoalkylaryl sulfonate	Detergent Emulsifier	Liquid	100%	Anionic	Inexpensive cosmetic base.
Hi-Form Base HFO	Maher Color & Chemical Co.	Aminoalkylaryl sulfonate	Detergent Emulsifier	Liquid	100%	Anionic	High foaming cosmetic base for shampoos, bubble baths, etc.
HM 99	E. F. Drew & Co., Inc.	Compounded ethoxylated sulfated fatty alcohol	Detergent	Liquid	100%	Anionic	Shampoo base.
Hodag 20-L	Hodag Chemical Corp.	Polyethylene glycol (200)monococoate	Emulsifier	Liquid	100%	Nonionic	Emulsifiers, wetting agents and plasticizers for general cosmetic, pharmaceutical and other uses.
22-L		Polyoxyethylene glycol (200)dicocoate	Wetting Softener	Liquid	100%	Nonionic	
40-L		Polyoxyethylene glycol (400)monococoate	Emulsifier	Liquid	100%	Nonionic	
40-O	Hodag Chemical Corp.	Polyoxyethylene glycol (400)monostearate	Wetting Softener	Liquid	100%	Nonionic	
40-S		Polyoxyethylene glycol (400)mono-ricinoleate	Emulsifier	Liquid	100%	Nonionic	
40-R	Hodag Chemical Corp.	Polyoxyethylene glycol (400)dicoate	Emulsifier	Liquid	100%	Nonionic	
42-L	Hodag Chemical Corp.	Polyoxyethylene glycol (400)distearate	Emulsifier	Liquid	100%	Nonionic	
42-O		Polyoxyethylene glycol (400)dioleate	Emulsifier	Liquid	100%	Nonionic	
42-S		Polyoxyethylene glycol (400)distearate	Emulsifier	Paste	100%	Nonionic	

## Detergents & Emulsifiers . . .

Trade Name	Manufacturer	Class and Formula	Main Uses	Form	% Conc.	Type	Remarks
Hodag 60-L	Hodag Chemical Corp.	Polyoxethylene glycol (600) monocoate Polyoxethylene glycol (600) monostearate	Wetting Softener	Liquid	100%	Nonionic	Emulsifiers for cosmetic and pharmaceutical use.
60-S	Hodag Chemical Corp.	Polyoxethylene glycol (600) dioleate Polyoxethylene glycol (600) distearate	Solid	100%	Nonionic		
62-O	Hodag Chemical Corp.	Polyoxethylene glycol (1000) monostearate	Liquid	100%	Nonionic		
62-S	Hodag Chemical Corp.	Polyoxethylene glycol (1000) mono-stearate	Solid	100%	Nonionic		
100-S	Hodag Chemical Corp.	Polyoxethylene glycol (1500) monostearate	Solid	100%	Nonionic		
150-S	Hodag Chemical Corp.	Polyoxethylene glycol (1500) dioleate	Emulsifier	Solid	100%	Nonionic	
152-O	Hodag Chemical Corp.	Glycerol monocoate Glycerol monoleate Glycerol monostearate Glycerol monoricinoleate Glycerol monostearate	Emulsifier	Base	100%	Anionic	Emulsifiers, opacifiers and stabilizers for use by the food, drug and cosmetic industries.
GML	Hodag Chemical Corp.	Glycerol monocoate	Liquid	100%	Nonionic		
GMO-D	Hodag Chemical Corp.	Glycerol monoleate	Liquid	100%	Nonionic		
GMO	Hodag Chemical Corp.	Glycerol monostearate	Solid	100%	Nonionic		
GMS	Hodag Chemical Corp.	Glycerol monoricinoleate	Liquid	100%	Anionic		
GMR-D	Hodag Chemical Corp.	Glycerol monostearate	Liquid	100%	Nonionic		
GMR	Hodag Chemical Corp.	Glycerol monostearate	Emulsifier	Liquid	100%	Nonionic	Emulsifiers, lubricants and plasticizers for the cosmetic and other industries.
DGO	Hodag Chemical Corp.	Diethylene glycol monocoate	Lubricant	Liquid	100%	Nonionic	
DCS	Hodag Chemical Corp.	Diethylene glycol monoleate	Solid	100%	Nonionic		
EGS-N	Hodag Chemical Corp.	Diethylene glycol monostearate	Solid	100%	Nonionic		
PGS	Hodag Chemical Corp.	Propylene glycol monostearate	Solid	100%	Nonionic		
GTO	Hodag Chemical Corp.	Glycerol trioleate	Solid	100%	Nonionic		
PGL	Hodag Chemical Corp.	Propylene glycol monocoate	Liquid	100%	Nonionic		
HT 100	Fine Organics, Inc.	Stearyl dimethyl ethyl ammonium bromide	Powder	100%	Cationic	Used in water treatment for slime removal.	
Hybase	Bryton Chemical Co.	Synthetic barium petroleum sulfonate	Dispersant	Liquid	47%	Anionic	Used as detergent portion of motor oil additives and in rust prevention formulations.
Hyonic LA-40	Nopco Chemical Co.	Fatty acid alkylolamides	Foam Stabilizer	Liquid	80%	Nonionic	
LA-45	Nopco Chemical Co.		Thickener	Liquid	85%	Nonionic	
LA-50	Nopco Chemical Co.			Liquid	94%	Nonionic	
LA-70	Nopco Chemical Co.			Solid	94%	Nonionic	
LA-90	Nopco Chemical Co.			Solid	94%	Nonionic	
Hyonic PE 30	Nopco Chemical Co.	Alkyl phenoxy polyoxyethylene ethanol	Emulsifier	Liquid	Nonionic		
PE 50	Nopco Chemical Co.		Solubilizer	Liquid	Nonionic		
PE 70	Nopco Chemical Co.		Detergent	Liquid	Nonionic		
PE 90	Nopco Chemical Co.			Paste	Nonionic		
PE 150	Nopco Chemical Co.			Wax	Nonionic		
PE 200	Nopco Chemical Co.			Wax	Nonionic		
PE 300	Nopco Chemical Co.						
Igepal CA-720	Antara Chemicals, division, General Aniline & Film Corp.	Alkyphenoxy poly(ethyleneoxy) ethanol	Detergent	Liquid	100%	Nonionic	Combines superior hard-surface detergency with aqueous solubility at high temperatures (cloud point of 1%). Igepal CA-720 in distilled water is 85-92°C. Stable to strong acids and to many alkalis; suitable for use in hot cleaning systems, metal-pickling operations, and in electrolytic cleaning. Good rinsability.
Igepal CO-995	Antara Chemicals, division, General Aniline & Film Corp.	Nonylphenoxy poly(ethyleneoxy) ethanol	Emulsifier Stabilizer	Liquid	50%	Nonionic	50% aqueous solution of Igepal CO-990.
Igepal CTA-639	Antara Chemicals, division, General Aniline & Film Corp.	Alkyphenoxy poly(ethyleneoxy) ethanol	Detergent Wetting Emulsifier	Liquid	100%	Nonionic	Water-soluble surfactant used for detergency wetting, and emulsification; used particularly as an emulsifier in rubber latex emulsion paints, especially when a calcium-insensitive emulsifier is required.

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Order delivered. Responsibility ended? Not as we see it. If a customer has a caustic storage problem, we help him work it out. If his employees need instruction in the proper handling of chlorine, we offer this instruction. For, to us the business of a chlorine-caustic producer is by nature part science, part service. This explains much of what we do. It is why, though we are producers of raw-material chemicals, we duplicate in our laboratories the manufacturing processes that involve them. It is why we make it our business to understand yours as fully as possible. Going beyond our required responsibilities whenever we can be of help is a fixed habit at Wyandotte,

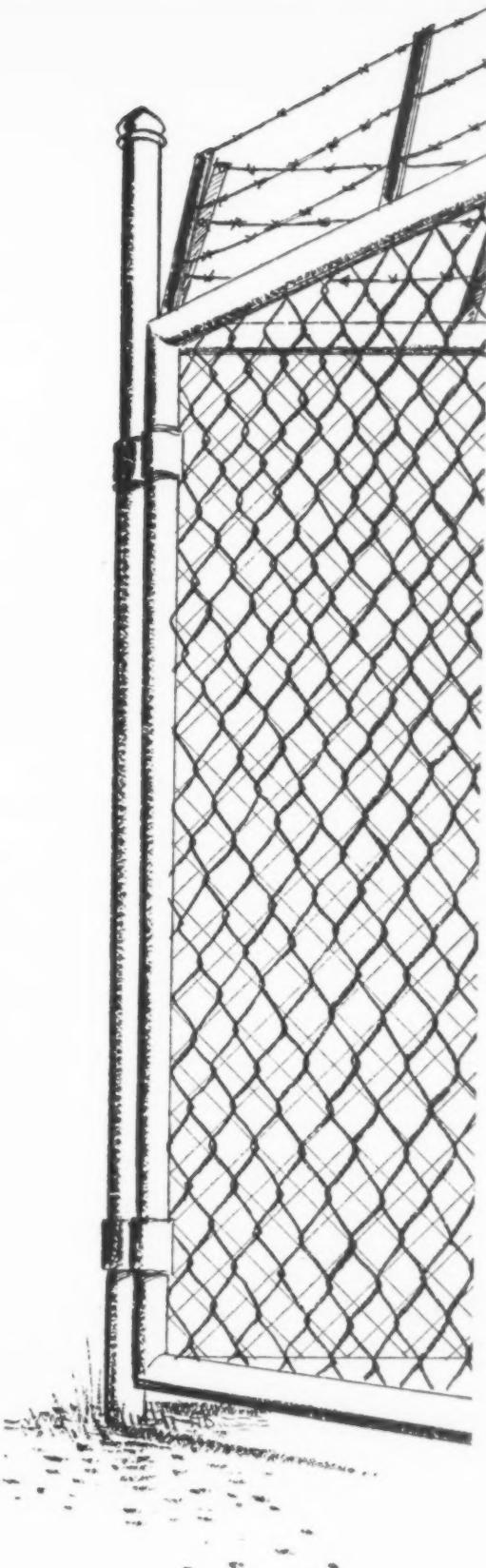
and it has earned for us that vital chemical reaction . . . the confidence of our customers. May we serve you?

*Wyandotte Chemicals Corporation,  
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*Pacing progress with creative chemistry®*





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lubricant is applied to the rubber. Home and office windows cleaned with silicone-containing products stay much brighter, much longer. This is just a small sampling of how the addition of the correct silicone has put unique qualities into such items as toiletries, drugs, automotive products, and other specialty chemicals. Is your business getting similar benefits? Why not call in the UNION CARBIDE Silicones Man to make sure. Address: Silicones Division, Dept. KU-0004, Union Carbide Corporation, 270 Park Avenue, New York 17, N. Y. In Canada: Union Carbide Canada Limited, Bakelite Division, Toronto 12, Ontario.

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### SILICONES

SOAP and CHEMICAL SPECIALTIES

# Chemical Specialties . . .

Aerosols  
Automotive products  
Bleaches  
Bowl cleaners  
Carpet cleaners  
Cleaning fluids  
Deodorants  
Disinfectants  
Floor waxes  
and other floor products  
Glass cleaners  
Household ammonia  
Insecticides  
Mildew compounds  
Moth specialties  
Polishes  
Repellents  
Rodenticides  
Sanitizers  
Skin protectants  
Stock sprays  
Sweeping compounds  
Wax strippers  
Weed chemicals  
and other  
Chemical Specialties

Newly elected president of the Canadian Manufacturers of Chemical Specialties Assoc., R. L. Jones (right) of Colgate-Palmolive, Ltd., Toronto, is congratulated by retiring president, Godfrey H. Wood, president of G. H. Wood & Co., Toronto. Mr. Jones was elected during 3rd annual CMCS meeting held in Montreal, October 24-26.



# Announcing . . .



NNOUNCING the 47th annual meeting of the Chemical Specialties Manufacturers Association at the Hollywood Beach Hotel, Hollywood, Florida, December 3-9, 1960.

An attendance of over 1,000 representatives of leading manufacturers of aerosols, insecticides, disinfectants, deodorants, floor waxes and other floor products, automotive chemicals, detergent and soap specialties and other chemical specialty products is anticipated.

Leaders of the chemical specialties industry, large and small, from all parts of the country will attend to discuss their common problems in open meeting.

If you want further information, communicate with

A. A. Mulliken  
Secretary



## Chemical Specialties Manufacturers Association, Inc.

50 East 41st Street

George W. Fiero, President

New York 17, N. Y.

H. W. Hamilton, Executive Vice-president

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The wide range of physical properties now available in Eastman's Epolene series of low-molecular-weight polyethylene resins provides formulating flexibility never before possible. For with the addition of three new resins (Epolene LVE, HDE and HD), polish makers can choose now from among seven different types to improve existing formulations or to develop new products.

Epolene resins produce self-polishing floor polishes that exhibit high gloss, anti-slip, water-spotting resistance and rebuffability. Emulsions of up to 40% solids can be prepared. Properly formulated, polishes made from Epolene are low in color and do not darken or turn yellow. Neither do they build up color with repeated applications.

Choose from either emulsifiable or non-emulsifiable types to obtain the right formulating characteristics and performance properties for your equipment and service.

**Epolene E emulsifiable** • Epolene E produces water-emulsion floor polishes that exhibit an excellent balance of high gloss, hardness, durability and good resistance to water-spotting, scuff and dirt pick-up. Ideally suited for heavy traffic, polishes made from Epolene E exhibit extreme toughness due to its higher molecular weight.

**Epolene LVE emulsifiable** • Lower in melt viscosity than the other emulsifiable Epolene resins, Epolene LVE has somewhat better handling characteristics and is the easiest to emulsify. It is softer than other resins in the series, too, and therefore may be expected to contribute better anti-slip properties and rebuffability to floor polishes made from it.

**Epolene HDE emulsifiable** • The first high-density emulsifiable polyethylene available, Epolene HDE is much harder than other resins in the series, yet quite easy to handle. A film of unmodified Epolene HDE emulsion is almost as hard as a film from a finished floor-wax formulation (rebuffable type). This increased hardness is due not only to the nature of this high-density polyethylene, but also to the fact that it is more compatible with oleic acid than are other emulsifiable polyethylenes. Epolene HDE restores rebuffability to polymer-containing polish formulations without sacrificing hardness.

**Epolene N non-emulsifiable** • Epolene N can improve significantly the properties of paraffin, microcrystalline or other waxes and is easily blended with these materials. It can replace part or all of the hard waxes in solvent paste polishes, for example, automotive polishes. Such polishes are characterized by low color, excellent hardness and gloss, and remarkable durability.

**Epolene LV non-emulsifiable** • Epolene LV and Epolene N are useful in similar applications. The LV type is softer than Epolene N, however, and because of its lower melt viscosity is somewhat easier to handle.

**Epolene HD non-emulsifiable** • An extremely hard material, Epolene HD is nevertheless easy to handle because of its low melt viscosity. It has a high softening point, and may be blended with waxes to increase their melting points. Epolene HD has a higher density than the other non-emulsifiable polyethylenes in the series.

**Epolene C non-emulsifiable** • Higher in molecular weight (7000) but lowest in density (0.907) of all the Epolene resins, Epolene C may be used in modifying waxes to increase melting points or to improve toughness and gloss.

# Eastman now offers polish formulators 7 basic types of polyethylene

New Epolene resins  
enable you to formulate  
broader range of  
liquid and paste polishes

Type	Molecular Weight	Brookfield Viscosity (cps. @ 120°C.)	Density	Penetration Hardness (100g./5sec./77°F., 10ths of mm.)
Epolene E	2500	1500	0.938	2
Epolene HDE	1500	455	0.956	1
Epolene LVE	1500	400	0.939	5
Epolene N	2500	2500	0.928	1
Epolene HD	1500	340	0.938	0.5
Epolene LV	1500	360	0.925	3
Epolene C	7000	16,000	0.907	7

If you are using low-molecular-weight polyethylenes in your polishes, investigate the complete Epolene series. Your Eastman representative will gladly explain the advantages of each of the resins in the series and will show you how to realize the most profitable use of them in your formulations. Ask him for specific formulating assistance and about the new time-saving, cost-cutting emulsifying technique developed at our laboratories.

# Epolene®

EASTMAN low-molecular-weight polyethylene resins

**SALES OFFICES:** Eastman Chemical Products, Inc., Kingsport, Tennessee; Atlanta; Chicago; Cincinnati; Cleveland; Detroit; Framingham, Massachusetts; Greensboro, North Carolina; Houston; New York; Philadelphia; St. Louis. **West Coast:** Wilson and Gee, Meyer & Company, San Francisco; Los Angeles; Portland; Salt Lake City; Seattle.

**Were you there when the profits were handed out?**

**These  
all  
contain  
Tabatrex**

More than 2,000,000 gallons of these cattle sprays were bought by dairy farmers last summer. These are just a few of the different brands that had one important ingredient in common, an ingredient that meant *extra sales and extra profits.*



**Yes, They ALL Contain Tabatrex**

In spite of the cool summer in 1960, formulators all over America reported sharply increased sales for livestock sprays because of TABATREX. Dairymen reported higher repellency—greater protection from biting flies—greater milk production—greater profits—than ever before. Dealers reported excellent consumer acceptance and a more active demand for livestock sprays than they had ever experienced. They attribute this increased volume to *better cattle sprays backed by aggressive promotion!*

**And It's Just The Beginning**

In 1960 TABATREX sprays were the talk of dairy farmers—TABATREX promotion was the talk of the trade! There'll be even more talk—even greater profits—next season.

**Be there when the profits  
are handed out in '61!**

***Be sure to get your label in the picture now!***

**Your  
Cattle Spray  
Needs**



For complete labeling and formulating information on fly sprays containing Tabatrex, write or call:

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EAstgate 7-9350  
Chicago 14, Illinois

# NEWS!

*for makers of*

**Now is the time  
to take a long look at...**

**CDB**  
Chlorinated  
Isocyanuric  
Acids and Salts!

Look at these  
convincing facts . . .



**HOUSEHOLD BLEACH**—CDB-based products are safer, more convenient and easier to use than liquid bleaches. Quick dissolving rate and inherently safe bleaching action minimize fabric-weakening even after repeated use. Proven mildness also applies to synthetics and blends.



**DISHWASHING COMPOUNDS**—The addition of CDB's to automatic dishwashing compounds promotes free-rinsing and thereby reduces film and spotting on glassware.



**SCOURING POWDERS**—CDB's improve cleaning effectiveness because of the powerful oxidizing action of available chlorine and its fast dissolving rate. Improved stability of CDB's in granular form increases the shelf life of your product.



**DETERGENT-SANITIZERS**—Compatibility with most builders plus high germicidal activity make the CDB's ideally suited for use in cleaning compounds for hospitals, plants and public places.



**UNDRY BLEACH**—CDB dry bleaches require less storage space . . . no storage tanks. They may be handled easily and safely and are fed dry, direct to the wash wheel. The danger of damaged clothes due to error or spillage is greatly reduced. Because of CDB's long term mildness, they prolong the life of institutional or rental linens and diapers.



**SANITIZERS**—High germicidal activity, good stability and rapid solubility command CDB's for use in dairy and food plant sanitizers. They conform to U. S. Public Health Service Code for bactericidal effectiveness.

Wh  
C

CDB is the  
of Chlorine

Where are they?

In houses,  
dry laundries,  
cleaning compa-  
tizers; dry  
bleaching

How do they?

The CDB's  
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product. It  
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gentler on  
of fabric

What about?

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Public He-

Formula

Molecular  
Structure

Average Available  
Chlorine, %

pH (1% solution)

Solubility  
(g/100 ml. soln.)  
at room temperature

Physical Form

Other a

# What are the CDB's?

CDB is the brand name for the FMC family of Chlorinated Isocyanuric Acids and Salts.

## Where are they used?

In household, commercial and institutional dry laundry bleaches; automatic dishwashing compounds; scouring powders; sanitizers; detergent-sanitizers and wherever bleaching and sanitizing action is desired.

## How do they compare with other dry bleaches?

The CDB's offer greater bleaching effectiveness than any other dry organic bleach, are stable and are competitively priced.

## How do they compare with liquid bleaches?

With the CDB's it is now possible to equal the bleaching effectiveness of liquid bleach while enjoying all the advantages of a dry product. They are more convenient to use; safer to handle; easier to package and ship; gentler on fabrics. They eliminate the danger of fabric damage due to mistakes in use.

## What about sanitizing effectiveness?

CDB's meet the standards set by the U. S. Public Health Service.

Formula	CDB-59 $\text{Cl}_2\text{K}(\text{NCO})_3$	CDB-60 $\text{Cl}_2\text{Na}(\text{NCO})_3$	CDB-70 $\text{Cl}_2\text{H}(\text{NCO})_3$	CDB-85 $(\text{CINCO})_3$
Chemical Structure				
Chlorine Available (in % solution)	59	60	70	88
Solubility (0 ml. soln.)	6.7	6.7	2.5-3.5	2.5-3.5
Storage Temperature	10	25	1.5	1.2
Physical Form	powder or granular	powder or granular	powder or granular	powder or granular

Other advantages of CDB-based products are shown here.

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## FOAM

### for synthetic latex paints

The addition of as little as 1% Tributyl Phosphate minimizes foam in manufacturing, can-filling, and application of the finished paint. Brushability and leveling characteristics are measurably improved, too.

## PROBLEMS

### for paper manufacture

Tributyl Phosphate's exceptional cost-efficiency value and minimal residual odor make it the preferred anti-foam agent in paper manufacture. The finished product has but minimum chemical remains with no residual odor.

## SOLVED with



## TRIBUTYL PHOSPHATE

### other foam applications

Only extremely small amounts of Tributyl Phosphate are required for successful foam control in water adhesives, casein solutions, inks, textile sizings, and detergent solutions.

#### PHYSICAL PROPERTIES

Tributyl Phosphate is colorless, odorless . . . miscible with most common organic solvents, and is an excellent solvent for a great variety of other materials. It has a surprisingly low melting point for such a high-boiling liquid.

#### Specifications:

Specific Gravity 20/20°C	0.977 - 0.979
Acidity (as phosphoric acid)	0.01% (by weight) maximum
Color, APHA	15 maximum
Moisture, Karl Fischer	0.3% maximum
Free Butanol	0.2% maximum
Appearance	Clear and free of suspended matter

#### GOT FOAM PROBLEMS? MAIL COUPON TODAY!

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Please send me further information on CSC Tributyl Phosphate as an anti-foam agent for \_\_\_\_\_.

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Company \_\_\_\_\_

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**M  
G  
K**

# Dual Synergist System

**(MAYBE NOT TWICE AS GOOD  
BUT CERTAINLY BETTER)**

**QUESTIONS**

What does MGK Dual Synergist System do that a  
... single synergist does not do with pyrethrum?

**ANSWERS**

Impartial tests by independent laboratories and qualified  
... entomologists prove that, in insecticidal sprays and  
aerosols, the use of the MGK Dual Synergist System  
provides a higher rate of kill of flies and roaches  
resistant to chlorinated hydrocarbons and organic  
phosphorus compounds . . . and at equal cost.

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K**

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on pyrethrum with MGK Dual Synergist System.

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# C.M.C.S. Meets, Elects Jones

**N**EW developments in the manufacturing and marketing of chemical specialties were discussed in great detail during the third annual meeting of the Canadian Manufacturers of Chemical Specialties Assn. last month. The meeting, for which registration was close to 250 — a record—, was held at the Queen Elizabeth Hotel, Montreal, Oct. 24-26.

New officers and directors were elected to head the organization for the coming year. Reginald L. Jones, vice-president in charge of manufacturing and a director of Colgate-Palmolive, Ltd., Toronto,

was elected president to succeed Geoffrey H. Wood, head of G. H. Wood & Co., Toronto. Mr. Jones, who is a charter member of C.M.C.S., served as vice-president of the association last year. For the past three years he has been chairman of the Soap and Detergents Division of C.M.C.S., as well as a director.

Two new vice-presidents were chosen at the meeting: A. Robins of Cartier Chemical Co., Lachine, Quebec, and Don A. S. Lee of DuPont of Canada, Ltd., Montreal. Mr. Robins was secretary of C.M.C.S. last year, and Mr. Lee served as a director.

D. D. Ross, Aerosol Packaging of Canada, Ltd., Scarborough, Ont., was named treasurer to succeed Gordon S. Lang, Connecticut Chemicals (Canada), Toronto.

Directors elected are: R. F. Byrnes, Rohm & Haas Co. of Canada, Ltd., Scarborough; J. D. Caldwell, Diversey Corp. (Canada), Ltd., Clarkson, Ont.; A. H. Carter, John Struthers & Co., Montreal; E. L. Clifton, R. M. Hollingshead Co. of Canada, Ltd., Bowmanville, Ont.; George V. Jansen, S. C. Johnson & Son, Ltd., Brantford, Ont.; J. H. Morrow, Canada Rex Spray Co., Brighton, Ont., and Geoffrey H. Wood, G. H. Wood & Co.,

Newly elected officers and directors of Canadian Manufacturers of Chemical Specialties Assn., seated, l. to r.: Don A. S. Lee, vice-president; Reginald L. Jones, president; A. Robins, vice-president. Standing: Arthur H. Carter, director; D. D. Ross,

treasurer; R. F. Brynes, director; J. D. Caldwell, director; E. L. Clifton, director; W. Bowler, secretary; George V. Jansen, director; J. H. Morrow, director; G. H. Wood, past president and director.





Herbert H. Lenk, president of DuPont of Canada, Ltd., Montreal, luncheon speaker on Oct. 25, discussed "Selling in the Sixties."

Toronto, immediate past president.

Two presentations on marketing were among the highlights of the meeting. The first was a marketing forum, presided over by G. H. Wood. Panelists included Dr. A. B. Blankenship, executive vice-president of Blankenship, Gruneau Research, Ltd., Toronto, who discussed market research. "Personal Selling and Distribution" was the subject of the second panel member, Frederick P. Kirby, vice-president in charge of marketing of Foster Advertising, Ltd., Toronto. The third panelist, Ben Dobrinsky, director of advertising, Steinberg's, Ltd., Montreal, spoke on sales promotion.

The second discussion of marketing was by Herbert H. Lenk, president of DuPont of Canada, Ltd., Montreal, who discussed "Selling in the Sixties" at the first group luncheon, Oct. 25. Mr. Lenk declared that the "economy of the world is changing at an alarming rate." Because of changes in products, methods of production and distribution, as well as consumers' tastes and buying habits, "no longer will sales people be confronted with static bullseye targets, but with fast mov-

ing targets," he pointed out.

No longer do "consumers earmark the major portion of their income for necessities," Mr. Lenk said, citing this as an example of changes in consumer buying traits. In addition, he stated, there is a great deal of "switching from products of one industry to those of another, as well as from brand to brand." Mass leisure, greater mobility, and more educational opportunities of consumers will all have their effect on selling in the Sixties, according to Mr. Lenk.

The rapidity of the changes taking place in this decade will be greater than in the previous decade, according to Mr. Lenk. As an illustration of this he pointed out that of seven plant locations his company has in Canada, five are less than six years old.

"The art of selling and intuition are not enough in the fast moving developments ahead," according to Mr. Lenk. "Market mindedness must pervade the whole organization" in the decade ahead, he added.

Speaking of salesmen, Mr. Lenk reminded his audience that salesmen should be brought in on all phases of company problems.

"Ambassadors of service" is the way he characterized the salesmen of the '60s.

"Market research," was defined by Dr. A. B. Blankenship as "the collection and interpretation of information designed to help the marketing process. Market research should be far more important in the next 10 years than ever before," he declared. The reason for this is that all kinds of changes have taken place in marketing in recent years. Retail outlets are different from 10 years ago, and products are different too. He also pointed out that the "decreasing difference between brands makes marketing more difficult."

Frederick Kirby of Foster Advertising Agency explained the "combination of elements that go into the marketing mix." In discussing the channels of distribution through which chemical specialties are sold, Mr. Kirby pointed out that the manufacturer must decide which are the most effective channels of distribution for his product. However, the decision's in most cases does not rest solely with the manufacturer or marketer, he indicated. The choice of the chain of distribution sometimes is beyond the control of the manufacturer. Factors that determine these channels include buying panels of chain stores, competitive products, pricing, servicing, direct selling, etc. The distribution pattern is changing constantly, and requires constant study if the manufacturer is to make the most effective choices, Mr. Kirby pointed out.

"Sales promotion should be regarded as an investment, rather than an expense," Ben Dobrinsky declared. He defined sales promotion as the "putting to work of the chemistry of ideas to create sales and profits." An essential ingredient of good sales promotion is "enthusiasm," according to Mr. Dobrinsky. In the battle for supermarket shelf space, he asserted, two factors will determine the outcome: 1.) Discovering what makes people buy, and 2.) ascertaining

what they will buy. Sales promotion, he continued, plays a vital role in determining the answers to these questions.

As examples of good sales promotion he cited picture premiums first distributed by B. T. Babbitt Co. in 1851. The use of polyethylene bottles and aerosols were mentioned as worthwhile developments in marketing and sales promotion. He cautioned, however, that the consumer must be "educated to the value of aerosols." Mr. Dobrinsky pointed out that "consumers are reluctant to buy aerosols because they don't understand the advantages of aerosols." From the retailer's standpoint, he criticized the fact that there is no provision made for price marking on aerosol cans, and also the fact that caps are interchangeable.

"Too much sameness in promotion" of chemical specialties was also scored by Mr. Dobrinsky. "Cents off" promotions result in destroying brand loyalty, he stated.

He advised manufacturers that "if you wish to sell us, be sure your product is accompanied by a sound merchandising plan, and then we will be more anxious to buy your product than you are to sell it."

In conclusion Mr. Dobrinsky stated: "Be honest in your claims. Make your product reflect your company's personality.

Summing up, G. H. Wood,

A. Robins, Cartier Chemical Co., Lachine, Quebec, acts as moderator for pane on tariffs.



panel moderator, declared that marketing must come before actual selling. "The impact of sales promotion and advertising have to be linked in getting your product into the hands of the customer and making sure she uses it," Mr. Wood pointed out. He also advised that "you must know how your competition is or is not serving their market."

"Research alone is not the answer. Research can only come up with part of the answer. It is the interpretation of this research that is important. To take part in this research is most important," Mr. Wood added.

"Markets are no longer where you find them; they are where you search for them," Mr. Wood asserted.

The eight doors to successful marketing enumerated by Mr. Wood are: "Want," which must be instilled in the mind of the consumer; "Faith," the belief that you can come up with the right answer; "Imagination," most useful in business; "Decision," when you decide on a program go ahead with it; "Persistence," don't give up; "Enthusiasm" — without this you can't do anything; "Service," which should be complete; "Appreciation," which is the ability to say thank you.

Among the new developments discussed at the meeting was a review of the use of iodine type disinfectants in food processing plants and in hotels, restaurants, schools and hospitals. The paper, presented by Carl S. Bloomberg of Economics Laboratory, Inc., St. Paul, was co-authored by Mr. Bloomberg, John L. Wilson and Williams G. Mizuno, also of Economics.

In a discussion of "Aerosols — Past, Present and Future," S. V. Tuttas, vice-president in charge of sales for Crown Cork & Seal Co., Philadelphia, declared that "the thing" the aerosol field has to sell "is convenience, packaged and pressurized, and made handy in a can." He pointed out that "customers love convenience, even as you and



Don A. S. Lee of DuPont of Canada, Ltd., Montreal, presiding at luncheon Oct. 25. He was chairman of the program committee for the meeting.

I. Aerosol packaging is a convenience. Another name for convenience is aerosol. Sell them together, and you can sell any product that goes into them."

The role of the custom or contract packager of aerosols was outlined by Harry E. Peterson, president of Peterson Packaging and Filling Co., Danville, Ill. Mr. Peterson summed up his talk by pointing out that "There is no doubt that the contract filler is here to stay. He fills a basic need and fits into our age of specialization." Mr. Peterson's paper will be published in full in the December issue of *Soap and Chemical Specialties*.

CMCS' Automotive Division, which was renamed "Automotive, Marine and Transport Chemicals Division," heard a discussion of "Technical Service and the Chemical Specialty Industry" at its session Oct. 26. Stanley W. Coryell, manager of the technical service department of R. M. Hollingshead Corp., Camden, N. J., discussed the subject. He pointed out that a technical service man performs a function in a chemical specialties firm that may be different from that of his counterpart in a chemical plant. His paper appears in full in the December issue of *Soap*.

# Films from Polymer Emulsions

GENERAL aspects of filming properties exhibited by polymer emulsions were discussed in the Zdanowski/Brown paper presented at the C.S.M.A. meeting in Cincinnati, O., in May, 1958. The authors then covered a proposed mechanism for the formation of films from polymer emulsions and a discussion of several environmental and physical factors affecting the filming properties of such polymers. The present paper, as a sequence to the 1958 presentation, evaluates quantitatively the magnitude of some of these effects as studied in terms of the properties of the resulting film. Some additional factors affecting the filming process are presented and, in conclusion, the application of this information to the floor polish field is discussed.

## Film Formation Mechanism

Before turning to our main subject matter we shall review very briefly the most important facts involved in the mechanism of form-

ing films from polymer emulsions.

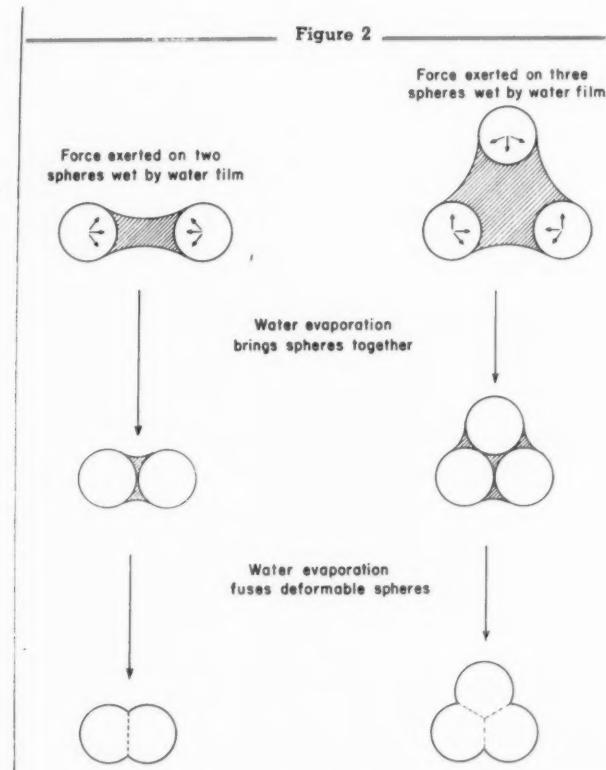
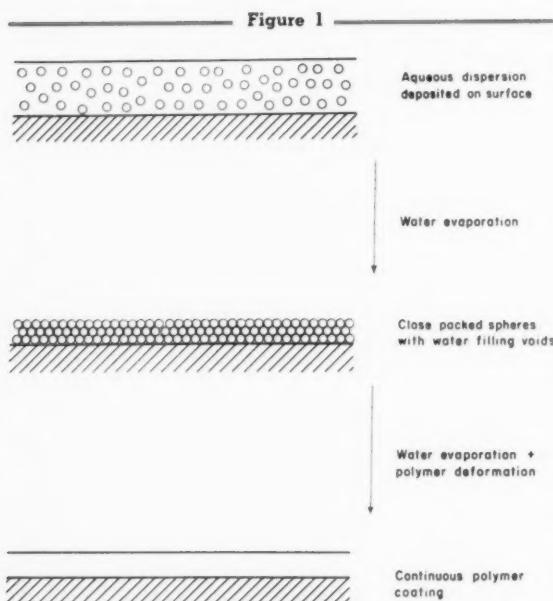
A polymer emulsion consists of a polymer phase in the form of individual spheres dispersed in a liquid phase which, in the case of aqueous emulsions, is, of course, water. As manufactured, polymer emulsions are fully polymerized molecules of relatively high molecular weight. Most of the systems on the market consist of water dispersions containing 35 to 60 per cent solids of polymer spheres 0.01 to 1.0 microns in diameter.

In order to obtain from such a discontinuous and dispersed system a continuous film, free of void spaces, deformation and fusion of these individual spheres is obviously necessary. It is also obvious that for most applications greatest possible film continuity, or, in other words, the greatest possible

degree of particle fusion, is desirable in order to get the highest degree of film toughness obtainable with a given polymer system.

With emulsion polymers this deformation and fusion of the discrete polymer spheres occurs upon evaporation of water, subsequent to the deposition of the emulsion in the form of a coating on a substrate. Schematic picture of this process in an ideal system of uniform spheres is presented in Figure 1.

Deformation of the polymer spheres requires the existence of a driving force of sufficient magnitude to overcome resistance of the polymer spheres to changing their shapes. Hard, glassy polymers, such as polymethyl methacrylate will resist very strongly deformation under stress whereas rubbery polymers will deform more readily.



**By R. E. Zdanowski\*,**  
Research Division  
Rohm & Haas Co.  
Philadelphia, Pa.

Obviously, then, the potentiality for film formation of a dispersion polymer is related to this deformability.

In the above mentioned paper it was suggested that the driving force needed to overcome the resistance of polymers to deformation is supplied by the development of capillary pressure in the spongy structure of the film during its early stages of formation. This is demonstrated schematically in Figure 2.

In the first stage of this process, the polymer particles are concentrated as water evaporates and finally reach a concentration at which they touch. Beyond this point, a continuous phase of polymer particles is established with water filling the interstices of the structure. As the water continues to evaporate, a capillary pressure develops perpendicular to the surface of the particle. This pressure, in turn, exerts a force to deform the particle. In essence, the deforming polymer fills the space being created by the evaporating water. If the resistance of the particle to deforming is less than this driving force, film formation will take place.

If, on the other hand, the polymer is so rigid that it successfully resists deformation, film formation is not accomplished and a powdery or spongy structure remains after water evaporation.

#### Basic Factors Evaluated

With this schematic and, admittedly, somewhat simplified picture of film formation in mind, we can now discuss some of the factors at work during the process of film formation. Primary emphasis will be placed upon the end

result produced by variation of these factors in terms of property changes produced in the resulting film.

#### Temperature Control

Mechanical properties of the most common organic polymers, including the large family of vinyl polymers, (e.g., polyvinyl chloride, acrylics, etc.) were studied over a wide temperature range. These polymers were found to be subject to sharp transition from a glassy to a rubbery state which is specific and characteristic for each polymer. Figure 3 demonstrates the

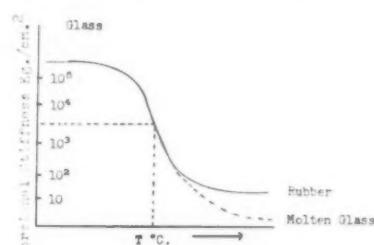


Fig. 3. Torsional stiffness of amorphous polymers.

change in mechanical properties (in terms of torsional stiffness) of typical thermoplastic amorphous polymers over a range of temperatures. It is apparent then, that with such polymers, changes in the ambient temperature used at film formation will exert a significant influence on the deformability of the polymer particles and will hence influence the quality of films attainable under prevailing conditions.

On the basis of this fact, the concept of Minimum Film Formation Temperature (MFT) was developed which represents the minimum temperature level required for the attainment of film continuity. In other words, for each thermoplastic polymer some tem-

perature level exists above which the polymer particles will soften sufficiently to deform and fuse together into a continuous film. Conversely, below this temperature limit the particles will not coalesce and film formation will not take place. The family of acrylic polymers offers an excellent opportunity to illustrate this point because of the wide variation in hardness and softening point characteristics of the various esters. Table I lists sample MFT data for a homologue series of ethyl acrylate/methyl methacrylate copolymers. It should be noted that as the methyl methacrylate content increases, which in this case is the hard component, the MFT also increases.

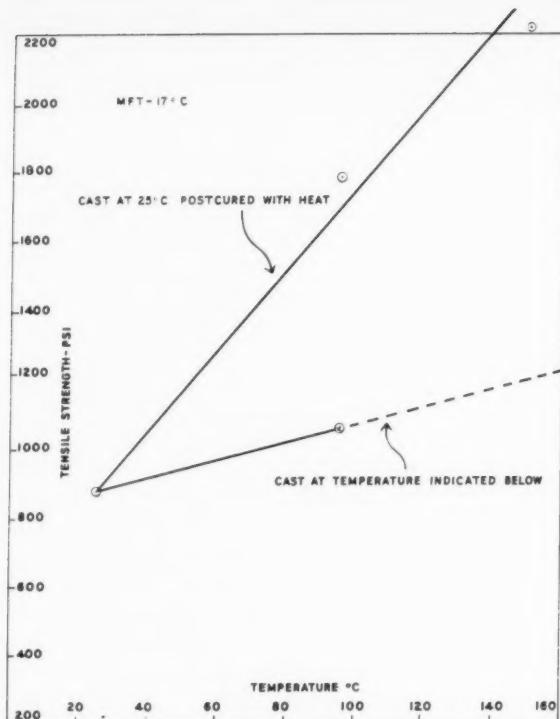
However, effect of temperature on filming properties of emulsion polymers is not limited to determining whether a given emulsion polymer system will produce a continuous film or not. At casting temperatures only slightly above the MFT, sufficient deformation of particles may take place to produce what may appear to be a homogeneous and continuous film but in fact the particles may not be deformed to the fullest limit and film structure may be somewhat porous and spongy.

This effect was studied with copolymers A and B from Table I. In one case, films were cast and conditioned for seven days at 25°C. and then they were subjected to a one hour bake at 95° and 150°C. In another case, the casting and drying temperatures were maintained constant at 25° and 95°C. The 150°C. temperature was eliminated from the latter part of the experiment because of obvious limitations imposed by the boiling point of water.

Table I. Effect of EA/MMA Ratio on MFT

Code	EA/MMA	MFT-°C.	Hardness-KHN
A	70/30	<6°	0.6
B	55/45	9°	3.8
C	45/55	32°	8.0
D	35/65	49°	13.1

\*Paper presented at the third annual meeting, Canadian Manufacturers of Chemical Specialties Association, Montreal, Oct. 25, 1960.

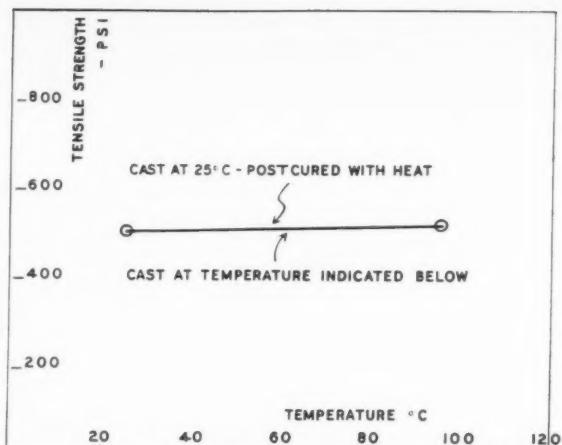


Graph 1. Effect of temperature on tensile properties of an EA MMA-55 45 copolymer.

The film quality achieved at the given conditions of test was studied in terms of tensile strength properties. Dumbbell shaped specimens were employed and the tests were conducted on an "Instron" unit.

Graph 1 illustrates the effect of temperature on the quality of film achieved with copolymer B, which you will recall was the somewhat harder one of the two. Before analyzing and discussing these data, it should be emphasized that perfectly clear and uniform films were obtained from the two polymers under all conditions of test since the lowest casting temperature (25°C.) was well above the MFT of both copolymer emulsions.

The upper curve in Graph 1 represents the change in tensile strength characteristics of the films cast at 25°C. and subsequently subjected to a one hour heat treatment at 95°C. and also 150°C. The tensile strength variation, due to this post-heating treatment, extends from approximately 880 psi with no heat cure to slightly over 2200 psi with the 150°C. post-cure.



Graph 2. Effect of temperature on tensile strength of a 70/30 copolymer.

#### Method of Compounding

The numerous acrylic esters can be formulated very easily into homologue copolymer series ranging from very rubbery to very hard compositions. This is usually accomplished by copolymerization of two or more esters of acrylic or methacrylic acids.

The effect of chemical composition on physical properties of such acrylic copolymers is well known and need not be reviewed here. Some new and interesting experimental data can, however, be presented regarding the effect obtained in terms of film quality, depending on whether the composition was attained by such a copolymerization technique or by physical blending of finished emulsion polymers. The effect of this variable on filming and hardness properties was already discussed in the previous paper. Additional evidence has now been obtained on the differences in film quality attained with the two methods of achieving a given compositional make up. This effect was studied with an ethyl acrylate/methyl methacrylate system involving, in one case, an emulsion copolymer of the two esters and in another case a physical blend of the homopolymers of ethyl acrylate and methyl methacrylate. The p-EA had an MFT of <0°C. while the p-MMA's filming temperature was >95°C. Mini-

mum film formation temperatures for the finished systems in this study are given in Table II.

Films were cast from the above systems at 50°C. Tensile strength determinations were carried out on an "Instron" tester. Results are shown in Graph 3.

The most interesting aspect of these data lies in the lag of tensile strength of the blend behind that of the copolymer which is particularly evident at the higher levels of methyl methacrylate. An explanation for this apparent difference in toughness probably lies in the different types of film structure attained with the two systems. In case of the copolymer a uniform deformation of particles has taken place with all compositions since the casting temperature at 50°C. was substantially above the highest MFT of the copolymers studied (34°C.). In case of the blend, it will be recalled that the p-ethyl acrylate component had an MFT of <0°C. while the p-methyl methacrylate had an MFT of >95°C.

At the drying temperature of 50°C., only the p-ethyl acrylate particles were undergoing deforma-

**Table II. Comparison of MFT properties of a copolymer and a blend of p-ethyl acrylate and p-methyl methacrylate**

EA/MMA Ratio	Copolymer	Physical Blend
	Minimum Film Formation Temperature — °C.	
45/55	34°	<0°
55/45	9°	<0°
70/30	<6°	<0°
85/15	<0°	<0°
100/-	<0°	<0°

tion with the p-methyl methacrylate particles remaining virtually unchanged. The resulting film was a heterogeneous structure composed of a continuous phase of p-EA, a very soft polymer, and a dispersed phase of undeformed p-MMA particles. (A schematic diagram appears in Figure 4.) Upon application of stress during tensile strength determination, the measured resistance of the film to this external force was actually that of the ethyl acrylate polymer itself, reinforced only to some degree by the p-MMA particles.

#### Effect of Hydroplasticity

Resistance of the particle to deformation is the most significant factor in determining the film forming characteristics of polymer

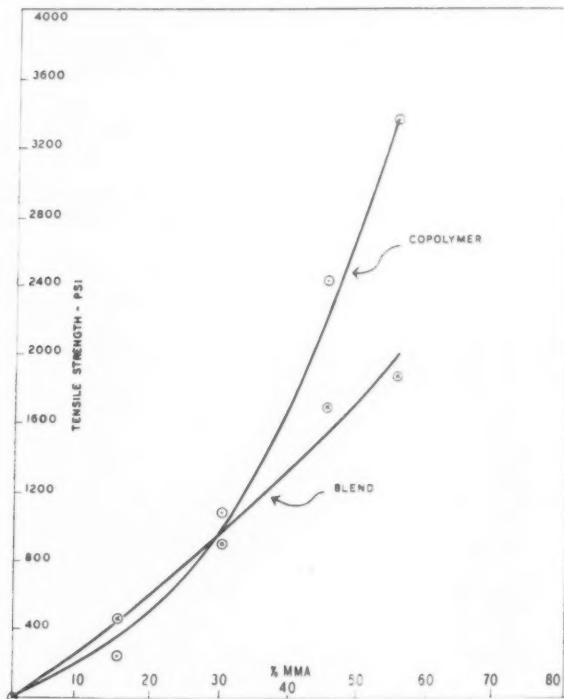


Figure 4

emulsions. Any changes in the hardness of the particles during the process of film formation will therefore greatly influence the film forming properties of the emulsion. This consideration has led to the use of the so-called "fluxing aids" which are simply volatile, organic solvents which plasticize the polymer particles during the actual process of forming a film. Once the film is formed, these modifiers volatilize and permanent softening of the film is avoided.

Another method of achieving such temporary plasticization of the particle is "hydroplasticization." In essence, this effect is observable in acid containing emulsion copolymers which, upon neutralization, undergo a change in their water sensitivity characteristics. This behavior is very easily demonstrable with acrylic copolymers and is shown in Graph 4 for an ethyl acrylate/methyl methacrylate copolymer prepared with and without methacrylic acid. The copolymers involved here are not soluble in water. Upon addition of base, the acidic component of the polymer forms a salt which is highly water sensitive and which consequently is subject to swelling by the water in the emulsion. The swollen polymer becomes soft and thus exerts a plasticizing effect on the polymer particle. A direct result of such hydroplasticization is

(Turn to Page 109)



Graph 3. Tensile properties of copolymer and blend of EA/MMA.

# SPECIALITIES AT HARDWARE SHOW

**F**OR the second straight year, new chemical specialties were much in evidence at the National Hardware Show held October 10 through 14th at the New York Coliseum. With over 60,000 products on display, the show attracted approximately 45,000 visitors to the more than 300 exhibits, which filled all four floors of the New York exhibit hall.

New aerosol products were prominent among the chemical specialties introduced at the show. One of the most novel uses for an aerosol product was the butane pressurized fuel cylinders used to light a new "Insta-Lite" which was introduced by Metalcraft Manufacturing Corp., a division of Knapp-Monarch Co., St. Louis. These butane lamps are available in two different models—the "Colonial" style and the "Gay Nineties" type and it is claimed that they will burn for 50 hours on one can of butane fuel. The butane fuel cans are available singly, or in packs of three, six or 12 containers. The lamps themselves are designed for either indoor or outdoor use and are available in various colors.

"Spray-Slip," a new aerosol dispensed silicone-based product for freeing sticky doors, windows, etc. was introduced by Osrow Products Co., Glen Cove, N. Y. "Handyman's Kit" (right) consists of two aerosols and screw driver.



Two styles of lamps utilizing butane pressurized fuel cylinders introduced by Metalcraft Manufacturing Corp., a division of Knapp-Monarch Co.

Several new aerosol paints were exhibited for the first time. Among firms introducing pressurized paints were the Magic Iron Cement Co., Cleveland, Ohio, who introduced a complete line of paints available in 17 different colors and Vim Laboratories, Washington, D. C. who introduced a line of 16 different colored pressurized paints.

New aerosol paints for use

on vinyl plastic and fabrics were introduced at the show. Plasticover, Inc., Brooklyn, N. Y. introduced a line of 18 different colored pressurized paints for use on vinyl plastic. These paints are designated "Liquid Leatherette" and can be used on all types of vinyl plastic such as auto interiors, nylon and "Orlon" convertible auto tops, marine upholstery, leatherette furniture, plastic handbags, etc.

Nu-Color of America, Los Angeles, Calif., introduced a line of 12 pressurized paints under the name of "Fabspray" for use on vinyl plastic materials. This product is available in the  $\frac{1}{2}$  quart size. Also introduced was a line featuring 18 different colors in pressurized paints for use on fabrics such as upholstered chairs, rugs, carpets, canvas awnings, convertible tops, automobile door panels, canvas lawn furniture, etc.

Seymour of Sycamore, Sycamore, Ill. introduced a new line of fast drying vinyl alkyd spray paints. These products, available in both 11 and 16 ounce containers are available in different colors

(Turn to Page 123)

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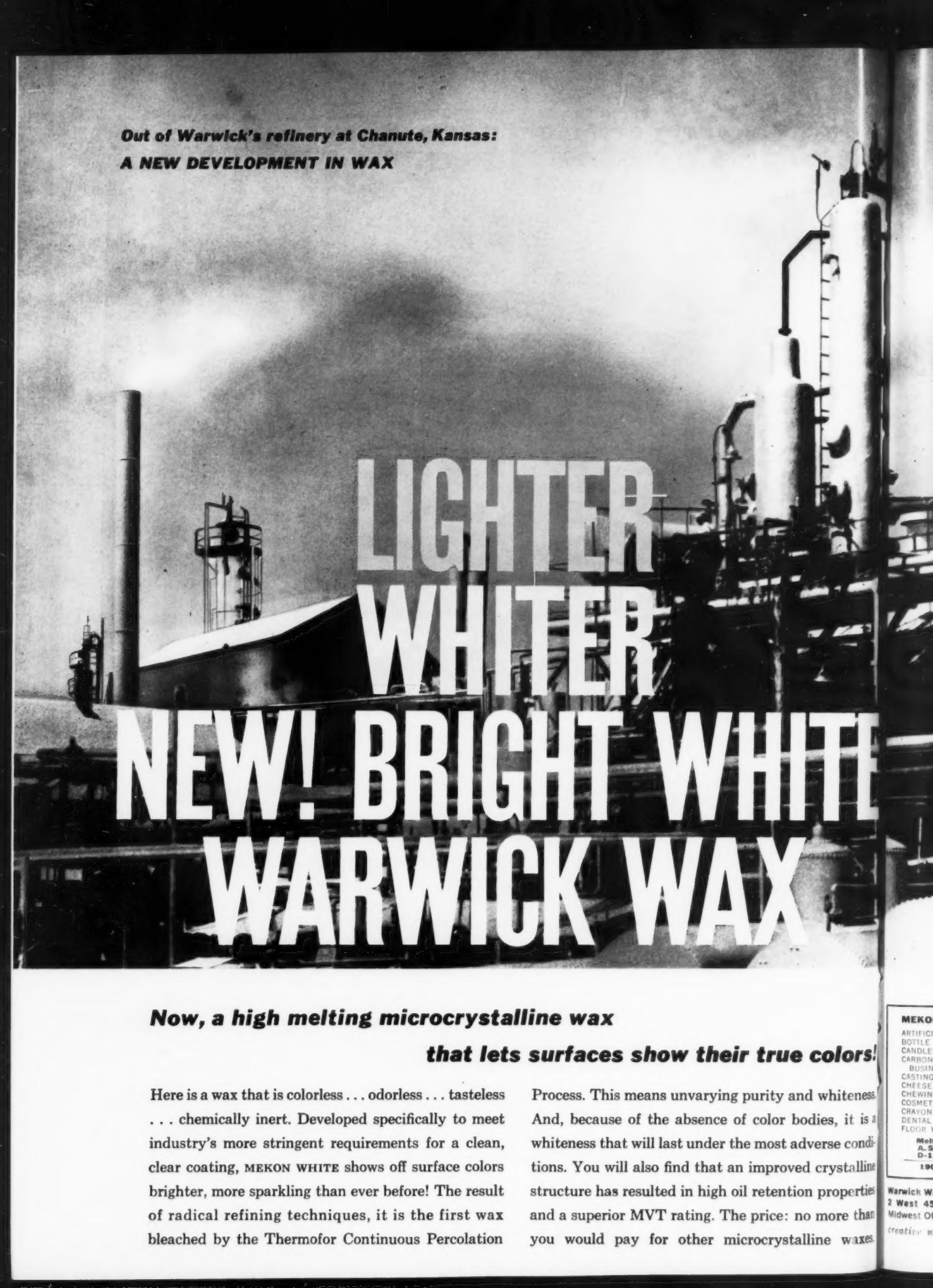
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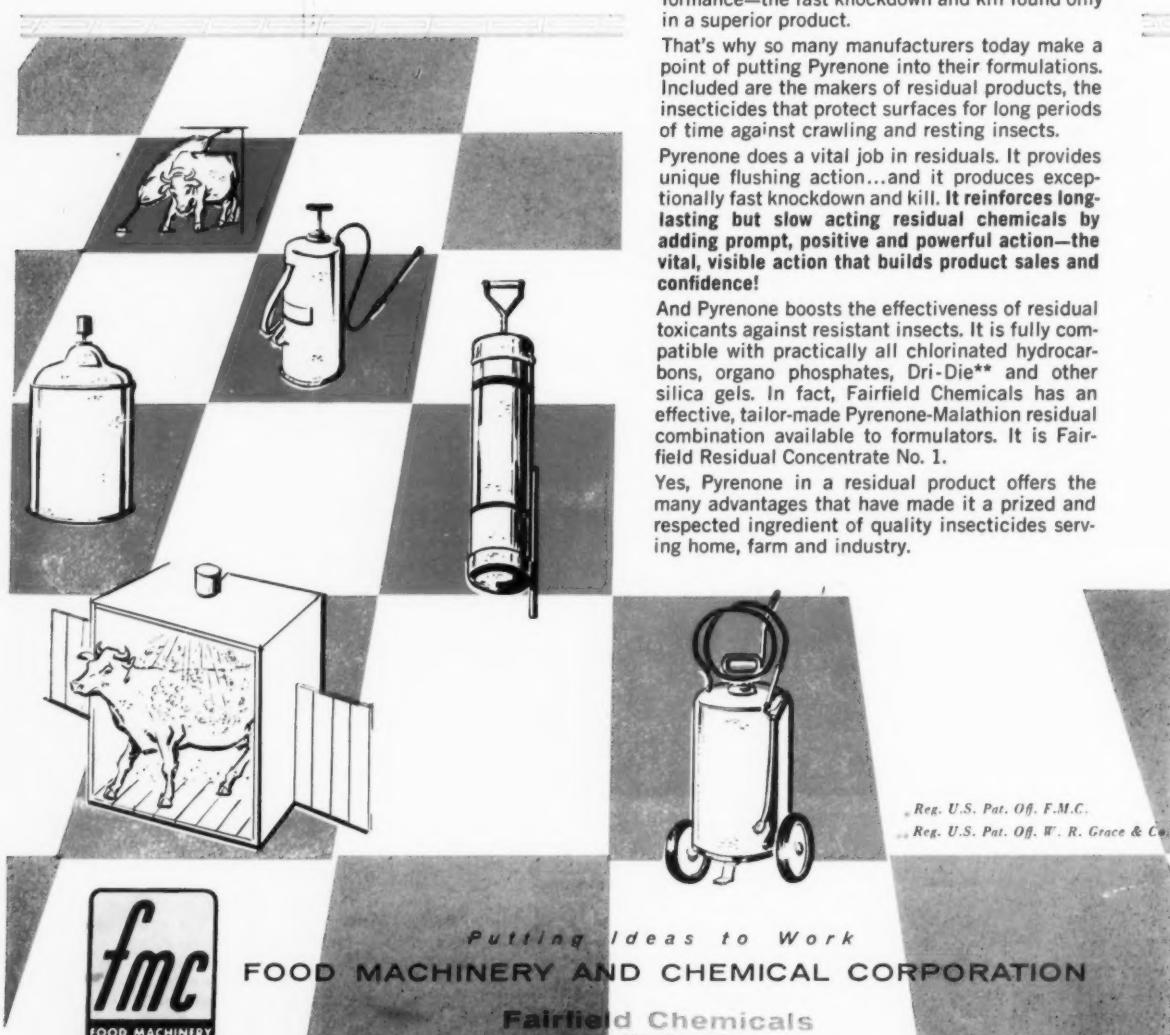
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# Nonaqueous Aerosol Foams

By P. A. Sanders\*,

"Freon" Products Laboratory  
E. I. du Pont de Nemours & Co.,  
Wilmington, Del.

**A**QUEOUS aerosol foam products have been marketed since early 1950. As a result of their utility and appeal, these products have grown in volume until they constitute one of the major groups among aerosols. Shaving lather is the best known aerosol foam product, but there are many other materials marketed in this form, such as shampoos, pharmaceuticals, and glass cleaners.

Aqueous foams may have some disadvantages, however, such as limited stability since water evaporates relatively rapidly. In some cases, active ingredients may not have sufficient solubility in the aqueous phase. Also, there is always the possibility of corrosion owing to the presence of water.

Nonaqueous foams may, therefore, be useful for many applications. These foams are prepared with polyhydric alcohols such as glycerine and glycols, or with glycol derivatives, in place of water. Extremely stable foams may be prepared because the glycols evaporate very slowly. Nonaqueous foams should be particularly applicable to pharmaceutical and cosmetic products, such as vaginal foams, suntans, burn ointments and antiperspirants. In such formulations, the longer foam stability and possibly better solubility of some active ingredients, may be factors of considerable importance.

In appearance, foams obtained from the nonaqueous systems resemble aqueous foams from typical aerosol shaving lather formulations. The characteristics of

foams from nonaqueous systems may be varied widely to suit any particular application, depending upon the choice of surface active agent, the type of propellant, and the type of glycol or polyhydroxy compound as the base. Foam stability, for example, may be varied to obtain quick breaking foams or foams with high stability. Likewise, such properties as foam density and wettability may be varied at will.

**Table I. Effect of Variation in Glycols upon Foam Stability**

**Foam stability between 48 and 72 hrs.**

1,3 Butylene glycol  
Propylene glycol

**Foam stability between 4 and 24 hrs.**

Diethylene glycol  
Ethylene glycol  
Glycerine  
1,2,6 Hexanetriol  
1,5 Pentanediol  
Polyethylene glycol 200  
Polyethylene glycol 400  
Polyethylene glycol 600  
Tetraethylene glycol  
Triethylene glycol

**Foam stability less than 1 minute**

Diethylene glycol ethyl ether  
Diethylene glycol methyl ether  
Dipropylene glycol  
Polypropylene glycol 150  
Tripropylene glycol

**Glycols producing no foams**

Diethylene glycol butyl ether  
Dipropylene glycol methyl ether  
2-Ethyl hexanediol 1,3  
Hexylene glycol  
Polyglycol 11-80  
Polyglycol 11-100  
Polyglycol 15-100  
Polyglycol 15-200

Emulsion System: 86% Glycol, 4% propylene glycol monostearate, 10% "Freon-12"/"Freon-114" (40/60).

Foams from nonaqueous systems appear to have greater consistency than the aqueous shaving lather foams and, in some cases, may approach creams in their consistency. Microscopic examination of nonaqueous foams indicates that the cell structure appears to be smaller and much more uniform in size than that of the aqueous foams.

Glycols or glycol derivatives used as the base for the nonaqueous foams have relatively low volatility. Therefore, the foams from such systems do not dry rapidly. This must be borne in mind when formulating products with the nonaqueous systems.

Properties of the foams from nonaqueous systems are a function of the type of glycol or glycol derivative, the type and quantity of propellant, the surface active agent, and the other additives that may be present. These factors are discussed in the following sections.

**Variation in Glycols**

On the basis of the overall characteristics of the emulsion system, such as foam stability, emulsion characteristics, product discharge, and toxicity, the preferred glycols for the nonaqueous foams are propylene glycol and polyethylene glycol 200 or polyethylene glycol 400.

**A. Foam Stability**

Ability of a glycol to form a good foam with the "Freon" propellants depends to a considerable extent upon solubility of the propellant in the glycol. In gen-

\*Paper presented at third annual meeting, Canadian Manufacturers of Chemical Specialties Association, Montreal, Oct. 25, 1960.

"Freon" and combinations of "Freon" and "F" with numerals are Du Pont's registered trade marks for its fluorocarbon propellants.

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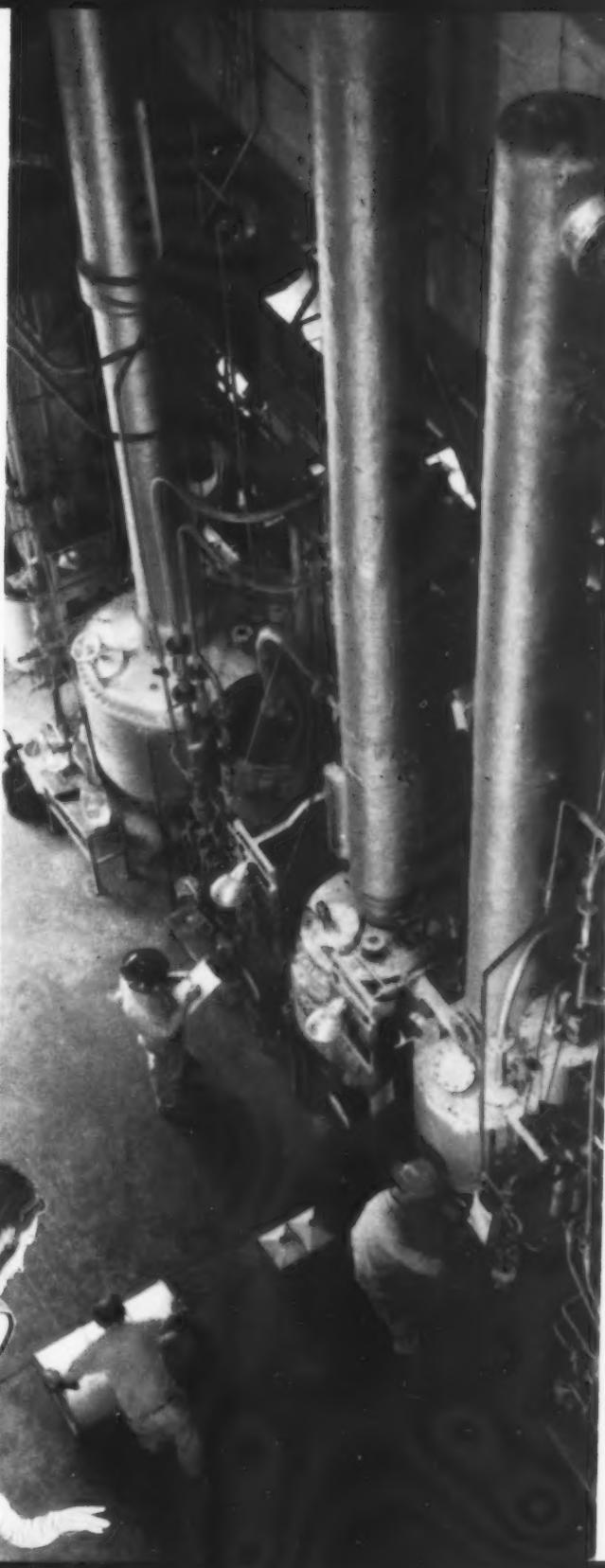


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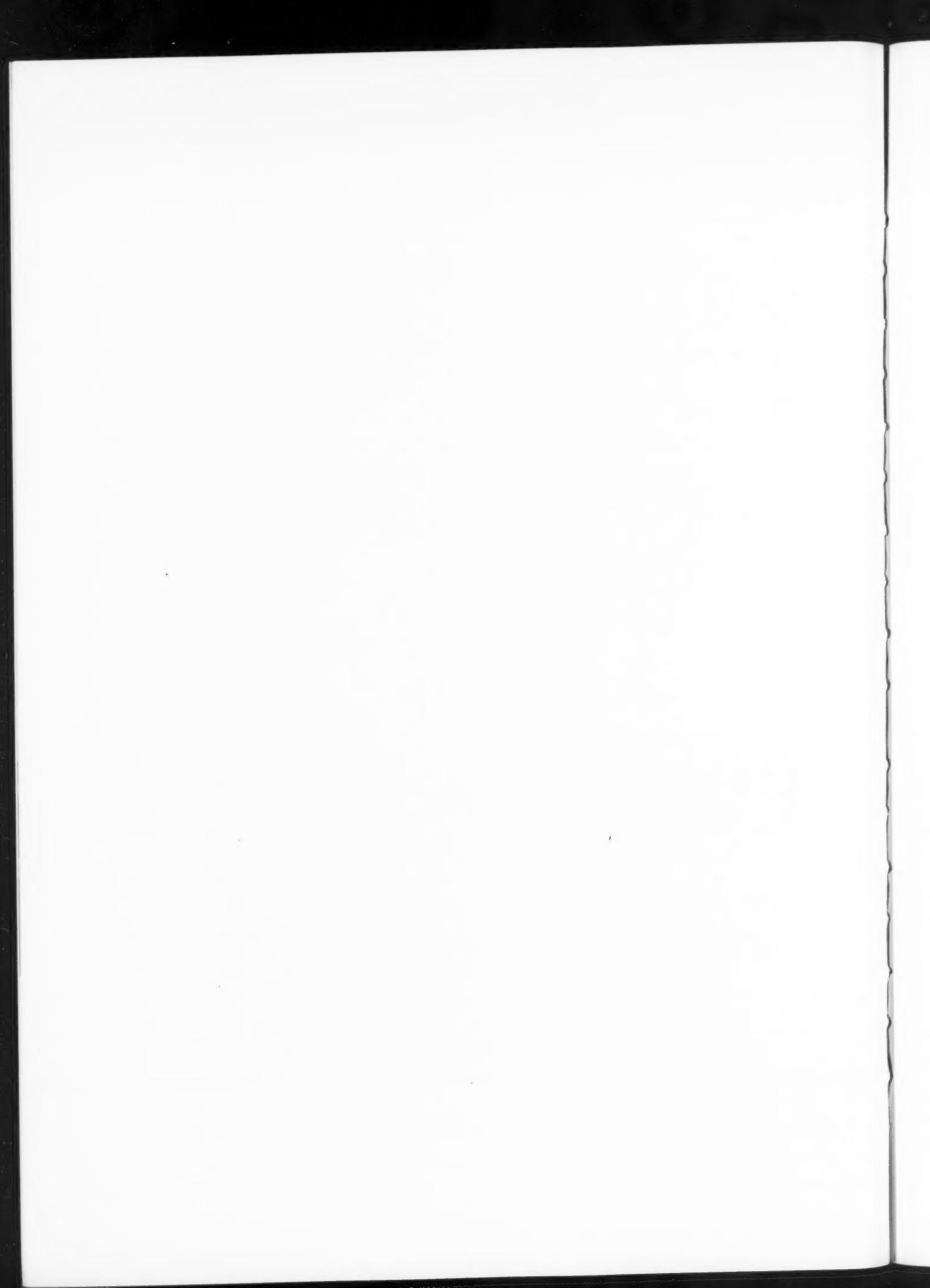
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eral, glycols having the least solubility for the propellants, appear to give the best foams.

A number of glycols or glycol derivatives were evaluated, for their foam characteristics using a basic formulation of 86% glycol, 4% propylene glycol monostearate as the emulsifying agent, and "Freon-12" / "Freon-114" (40/60) as the propellant. After discharge, the foams obtained from the various glycols were examined qualitatively at intervals to determine if any observable collapse of the foam structure had occurred. The results of this study are given in Table I.

Solubilities of the propellants in glycols and glycol derivatives have been reported in "Freon" Aerosol Report FA-25 (Ref. 1). A comparison of the foam stability data in Table I with the solubility data for the propellants in glycols in Ref. 1 indicates that the glycols with the least solubility for the propellants, such as propylene glycol, 1,3 butylene glycol, ethylene glycol, etc. give the most stable foams. Glycols that are completely miscible with the propellants or have high solubility for the propellants give unstable foams or do not foam at all.

The data in Table I illustrate the wide variation in foam stability that occurs with a variation in the glycol used as the base. The relative stabilities of the foams, however, may be different in emulsifying systems other than the basic one used for the evaluation. Factors, such as the type of emulsifying agent or the type of propellant, conceivably could alter the relationships.

#### B. Selection of Glycols

The selection of any particular glycol for a given product would depend upon such factors as foam stability, toxicity, solubility characteristics for the active ingredients, etc. Toxicity considerations would be extremely important, particularly for products to be applied to the skin. Compounds such as propylene glycol, glycerine and the polyethylene glycols should

**Table II. Effect of Variation in Propellants upon Foam Stability**

Propellant	Foam stability (hrs)
Propellant 12	> 72
Propellants 12/114 (40/60)	48-72
Propellant 114	24-48
Propellants 12/11 (50/50)	4-24

be suitable for topical applications, judging by the low toxicities reported for these materials (2, 3, 4).

On the basis of toxicity and foam stability, propylene glycol, glycerine or the polyethylene glycols would be satisfactory. However, glycerine has the disadvantage of forming extremely viscous emulsions or gels. As a result, the propellant remaining in the standpipe after pressure fitting may not mix with the rest of the formulation during shaking. The initial discharge of the viscous formulation is slow and sputtery. For this reason, glycerine alone does not appear promising as a base. However, it certainly could be utilized in combinations with other materials.

Emulsions prepared with propylene glycol or the low molecular weight polyethylene glycols have relatively low viscosities. This permits easy redispersion upon shaking if phase separation occurs during standing. Likewise, the discharge characteristics of the emulsions are satisfactory.

#### Variation in Propellants

##### A. Foam Stability

The type of propellant used with a nonaqueous emulsion sys-

tem has a considerable effect upon the stability of the resulting foam. This was demonstrated with a number of propellants in an emulsion system consisting of 86% propylene glycol, 4% propylene glycol monostearate, and 10% propellant. Foam stability was evaluated by visual observation as described in the previous section. Results of the study are given in Table II. With either propellants 12/114 or propellants 12/11 solutions, foam stability increases as the proportion of propellant 12 is increased so that the most stable foams are obtained with propellant 12 alone. Since 12/114 solutions give more stable foams than 12/11 solutions, the effect of the three propellants in decreasing order of foam stability is: propellant 12 : 114 : 11.

#### B. Effect of Varying Propellant Concentrations

Propellant concentrations of 8-19% appear to give the most satisfactory type of discharge and foam. Decreasing the concentration of propellant below 8% has a detrimental effect upon the discharge, as indicated by the data in Table III.

Increase in the concentration of surface active agent to 8% and of the propellant from 15% to 40% gives very coherent foams, as shown in Table IV.

Propellant concentrations of from 60% to 90% or higher give a very interesting series of products. These emulsions can be sprayed with a standard actuator or discharged with a foam valve.

**Table III. Effect of Propellant Concentration upon Discharge**

Propylene glycol	Composition of Emulsion. (wt %)			Comments
	Propylene glycol monostearate (pure)	"F-12"/"F-114" (40/60)		
88	4	8		Excellent discharge and good foam.
90	4	6		Discharge slower than above—good foam
92	4	4		Almost liquid discharge—expands into a fairly good foam, however.

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**Table IV. Effect of Higher Propellant Concentrations upon Foam Structure**

Composition of Emulsion, (wt %)			
Propylene glycol	Propylene glycol monostearate (pure)	"F-12"/"F-114" (40/60)	Comments
77	8	15	Very coherent foam.
72	8	20	More coherent foam than above — somewhat sputtery discharge.
52	8	40	Very dry foam — sputtery discharge.

When sprayed, a product somewhat similar to a cold cream is formed which expands into a very stable foam. With a foam actuator, the product discharges as a cold, dry, frozen foam which expands into a stable foam after warming up. Typical examples of formulations of this type appear in Table V.

**Table V. Nonaqueous Emulsions with High Propellant Concentrations**

Composition of Emulsion System (wt %)			
Propylene glycol	Propylene glycol monostearate (self-emulsifying)	"F-12"/"F-114" (15/85)	
66	4	30	
19	1	80	
8	2	90	

These high concentrations of propellant, yielded foams of excellent stability, even at concentrations of surface active agents below 2%.

### Effect of Surfactants

Among the many variables affecting the properties of non-

aqueous emulsions, the type of surface active agents were evaluated in the nonaqueous systems, only a few agents were found to be effective, among which self-emulsifying propylene glycol monostearate proved the most satisfactory.

#### A. Foam Stability

##### 1. Variation in Type of

er than one week by choice of the appropriate surface active agent. For the most stable foams, propylene glycol monostearate (self-emulsifying) is the preferred agent. Where high stability is not required, other agents could be used. Self-emulsifying propylene glycol monostearate and "Arlacel" 40 are both reported to have low toxicity (5, 6) and are used in cosmetic preparations as is cetyl alcohol. "Duponol" WS is not recommended for topical applications.

With exception of cetyl alcohol, none of the agents in Table VI was completely soluble in either the propylene glycol or the propellant. This characteristic appears to be a prerequisite for optimum foam stability and ease of discharge. One may conclude that the finely divided solids of the emulsifier act as an auxiliary emulsifier and stabilizer. It is well known that finely divided solids may promote emulsification in a number of systems (7). This may also explain why the self-emulsifying grade of propylene glycol monostearate was considerably more effective than pure propylene glycol monostearate. It is possible that the small quantity of soap present in the self-emulsifying grade dispersed the undissolved propylene glycol monostearate in a somewhat finer form than was obtained with the pure grade.

The formulation with cetyl alcohol as the emulsifying agent appeared to be a "solubilized" system and therefore differs from the other systems. The cetyl alcohol was completely soluble in the propylene glycol propellant mixture and the formulation appeared to be clear and homogeneous. The system was characterized by an almost liquid discharge which expanded immediately into a foam. This phenomenon may be related to the absence of dispersed solid emulsifier. In other formulations in which phase separation of the solid emulsifier had occurred, a similar liquid discharge was noted when only the clear portion of the system was discharged. When the solid

Agent: Evaluation of the surface active agents was carried out in a basic system containing 86% propylene glycol, 4% agent, and 10% propellants 12/114 (40/60). The agents found to be most effective are listed in Table VI. As the data show, foam stability may be varied from less than one minute to great-

**Table VI. Effective Surface Active Agents for Nonaqueous Foams**

Surface active agent	Foam stability
Propylene glycol monostearate (self-emulsifying)	1-2 weeks
"Duponol" WS (Fatty alcohol amine sulfate composition)	1-2 weeks
"Ethomid" HT-15* (Fatty acid amide-ethylene oxide condensate)	4 days - 1 week
Propylene glycol monostearate (nondispersible)	48-72 hours
"Arlacel" 400** (Sorbitan monostearate)	4-16 hours
Cetyl alcohol	4-16 hours
Diethylene glycol stearate (self-emulsifying)	< 1 minute
"G-1441"*** (Polyoxyethylene sorbitol lanolin derivative)	< 1 minute
Emulsifying system (by wt): 86% propylene glycol, 4% agent, 10% "F-12"/"F-114" (40/60).	

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emulsifier was redispersed throughout the emulsion by shaking, a typical foam discharge was obtained and the resultant foam was more stable than that from the clear portion alone. Emulsions with solid emulsifier may possibly consist of a "solubilized" system with dispersed solid emulsifier present.

Partial solubility of the agent appears to be only one of the properties required from the most effective emulsifying agent. Many agents, which were only partially soluble in the glycol-propellant system, did not give stable foams. It is probable that a combination of the proper degree of solubility in both phases, combined with the additional emulsifying activity of the dispersed solids, is necessary for stable foam formation and the foam discharge.

Foams from samples formulated with "Arlacel" 40, cetyl alcohol, or "Ethomid" HT-15 wet paper much more rapidly than those from products with propylene glycol monostearate as the emulsifying agent.

**2. Variations in Concentration of Surface Active Agent:** Here as in most emulsion systems, there is an optimum concentration of surface active agents depending upon the particular agents used. If the concentration of the agent is decreased below a given minimum, foam stability is adversely affected. This effect is shown by the data in Table VII, which were obtained by evaluating both self-emulsifying propylene glycol monostearate and pure propylene glycol monostearate at various concentrations in an emulsion system containing propylene glycol and propellants 12/114 (40/60). Concentrations of surface active agent above 4% give very stable foams but the use of higher concentrations is questionable since the possibility of valve clogging is increased considerably.

Wettability of the foams appears to be a function of the stability, as would be expected. Samples formulated with 4.0 parts of either agent did not wet paper towels within one hour after dis-

**Table VII. Effect of Variation in Concentration of Surface Active Agent upon Foam Stability**

Composition of emulsion systems (wt %)				
Surface active agent	Agent	Propylene glycol	"F-12"/"F-114" (40/60)	Foam stability
Propylene glycol monostearate—self-emulsifying	0.5	89.5	10.0	< 1 hour
	1.0	89.0	10.0	< 1 hour
	2.0	88.0	10.0	> 72 hours
	4.0	86.0	10.0	> 72 hours
Propylene glycol monostearate—pure	0.5	89.5	10.0	< 1 hour
	1.0	89.0	10.0	< 1 hour
	2.0	88.0	10.0	< 1 hour
	4.0	86.0	10.0	48-72 hours

charge of the foam. Samples containing 2.0 parts or less of agent caused wetting of paper almost immediately.

#### B. Emulsion Characteristics

The form in which the undissolved surface active agent is present in the emulsion system may influence such properties as foam stability and storage stability. Large masses of undissolved agent ultimately may lead to valve clogging problems or leakage. It is preferable therefore, that the suspended agent be as finely divided as possible. Factors influencing dispersion are: type of surface active agent, concentration of the agent, type of glycol, and other solvents that may be present.

**1. Variation in Surface Active Agent:** In systems containing 86% propylene glycol, 4% agent, and 10% propellants 12/114 (40/60), the surface active agent producing the best emulsions with the smallest particles was self-emulsifying propylene glycol monostearate. Pure propylene glycol monostearate gave emulsions with the largest particles while "Ethomid" HT-15 and "Arlacel" 40 gave emulsions with characteristics in between the other two agents.

**2. Variation in Concentration of Agent:** Emulsions prepared with 4% surface active agent appeared to have a much finer particle size than those with 2% agent. This may be due to the increased

viscosity of the emulsions with the higher concentrations. As a result mobility and agglomeration of the dispersion may be reduced.

#### 3. Variation in Glycols:

Emulsion systems prepared with polyethylene glycol 400 appeared to be somewhat smoother than corresponding emulsions prepared with propylene glycol. In these cases, difference between the agents was not as marked as with propylene glycol.

**4. Other Solvents:** Addition of other solvents to the nonaqueous emulsion system may have a considerable effect upon the emulsion, possibly as the result of altering the solubility relationships. Thus, the substitution of ethyl alcohol for 5% of the propylene glycol in an emulsion prepared with 86% propylene glycol, 4% self-emulsifying propylene glycol monostearate, and 10% propellants 12/114 (40/60) improves emulsion properties considerably and gives finer dispersion.

**5. Method of Preparation:** The method whereby the dispersion of surface active agent in the glycol is prepared has a profound effect upon the properties of the final emulsion. The present formulations were prepared by heating the mixture of surface active agent and glycol with agitation until the surface active agent dissolved. The solution was cooled with stirring until the agent separated from sol-

(Turn to Page 107)

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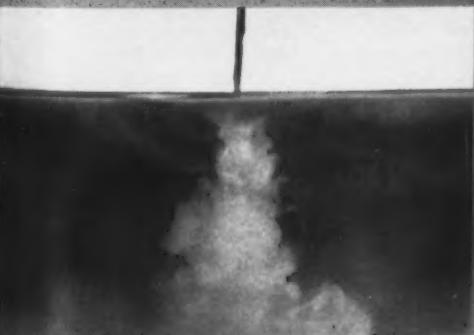
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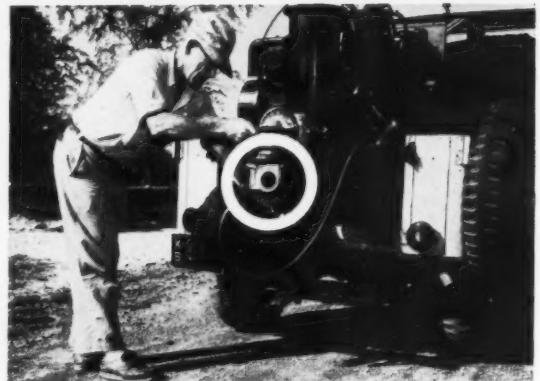


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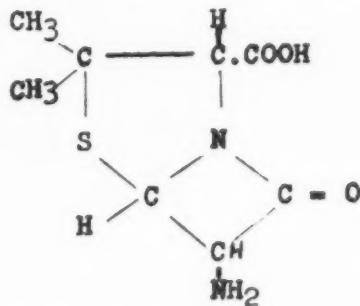
# Novel Bacteriostats Previewed

By A. F. McKay\*,

Monsanto of Canada, Ltd.,  
Montreal, Que.

OME of the major factors which must be considered in a search for new bacteriostats are: Retention of activity in the presence of organic matter; product stability; toxicity; substantivity for fabrics, skin, and other substrates; formulation for specific end-uses; possibility of acquired bacterial tolerance for a specific product; and cost-performance ratio. Relative importance of these factors will depend upon the particular application envisioned for the bacteriostat. Two applications to be considered here are control of infections and sanitizing.

During the early part of 1959, a group of workers at Beecham Co. in England succeeded in isolating the penicillin intermediate 6-aminopenicillanic acid



(1). Now the fermentation process for the production of penicillin can be stopped at the desired stage to allow the isolation of an optimum yield of 6-aminopenicillanic acid. With this intermediate available several research groups in the United States and Europe have been able to prepare over five hundred distinct penicillins. This

concerted research effort is directed toward preparation of new penicillins with growth inhibitory properties against penicillin resistant bacteria, penicillins which are more effective against gram-negative bacteria and penicillins which do not produce allergies.

One of the new compounds recently released for clinical trials is called "Syncillin." It will be noted that this name is a contraction of synthetic penicillin. "Syncillin" is formed by condensing *a*-phenoxypropionyl chloride with 6-aminopenicillanic acid. Latest member of this series, "Celbenin," (2) sodium 6-(2,6-dimethoxybenzamido) penicillanate, is claimed to be effective against every known variety of *Staphylococcus*.

One can expect many more valuable bacteriostats to emerge from this procedure of combining fermentation and synthetic processes.

Some advances have also been made in the synthesis of bacteriostatic compounds with less complex structures. These compounds are finding use as soap

bacteriostats and general sanitizing agents. Recently a study was started of the effect of structure on the bacteriostatic properties of isothiocyanates, their derivatives and some unrelated compounds. This work led to a few empirical observations on the relationship between bacteriostatic activities and chemical structure.

A number of naturally occurring isothiocyanates have been isolated from seeds of plants belonging to the *Cruciferae* family. They generally exist in the combined form as glycosides. Some plants containing isothiocyanates possess antibiotic properties and these plants have been used in the preparation of home remedies for various ailments. (3) Allyl isothiocyanate, which occurs in horseradish, is used as a preservative for soy sauce.

Recently Das, Kurup and Rao (4) have identified benzyl isothiocyanate as a component of the antibiotic Pterygospermin which was isolated from the Indian Drumstick tree (*Moringa pterygosperma*). These observa-

Table I. Bacteriostatic Activities (M.I.C. 1:X.10<sup>-4</sup>) of Isothiocyanates  
R NCS

R	M. pyogenes var. aureus (S)	M. pyogenes var. aureus (R)	Sarcina lutea	Strep. faecalis	Pr. mirabilis
C <sub>6</sub> H <sub>5</sub> CH <sub>3</sub>	320*	320	640	160	320
4-CNC <sub>6</sub> H <sub>4</sub> CH <sub>3</sub>	320	320	640	160	320
4-ClC <sub>6</sub> H <sub>4</sub> CH <sub>3</sub>	320	320	320	160	160
2,4-Cl <sub>2</sub> C <sub>6</sub> H <sub>3</sub> CH <sub>3</sub>	640	640	320	640	160
3,4-Cl <sub>2</sub> C <sub>6</sub> H <sub>3</sub> CH <sub>3</sub>	4,000	4,000	4,000	1,280	40
3,4-Cl <sub>2</sub> C <sub>6</sub> H <sub>3</sub> CH <sub>2</sub> CH <sub>3</sub>	2,560	5,120	2,560	2,560	640
3,4-Cl <sub>2</sub> C <sub>6</sub> H <sub>3</sub> CH <sub>2</sub> CH <sub>2</sub>	5,120	5,120	5,120	1,280	640

a. Minimum growth inhibitory concentration determined by serial dilution tube technique, e.g., the value 320 is equivalent to a dilution of 1 part in 320,000. The serial tube dilution technique can give quite wide variations in results and the relative order of activities are more important here than the absolute values listed. This applies to the values given in all of the tables.

\*Paper presented at third annual meeting, Canadian Manufacturers of Chemical Specialties Association, Montreal, Oct. 25.

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tions among others have created considerable interest in the isothiocyanates. Table I shows the effect of substituents in the phenyl ring on the bacteriostatic properties of benzyl isothiocyanates. Two chloro groups in the 3 and 4 positions of benzyl isothiocyanate are much more effective in enhancing its bacteriostatic properties than the other substituents studied. Both 3,4-dichlorophenyl-and  $\beta$ - (3,4-dichlorophenyl) ethyl isothiocyanates display higher bacteriostatic values than 3,4-dichlorobenzyl isothiocyanate. Although these isothiocyanates gave relatively good bacteriostatic values on in vitro evaluation, they are fairly toxic compounds and they lose most of their activity in the presence of protein. Most of the isothiocyanates in this study exhibited LD<sub>50</sub> values of the order of 60 mg/kg on intraperitoneal injection in mice. These deficiencies of the highly active isothiocyanates led to an investigation of their derivatives. As anticipated these derivatives were in general much less toxic but they were still inactivated by proteins.

The bacteriostatic activities of several representative dithiocarbamates (5) are listed in Table II. The dithiocarbamates can be considered as addition products of isothiocyanates with thiophenols or benzyl mercaptans. It will be noted that 4-chlorobenzyl 3,4-dichlorobenzylidithiocarbamate is a more active bacteriostat than 4-chlorophenyl 3,4-dichlorophenylidithiocarbamate.

The relative effect of phenyl and benzyl substituents on the bacteriostatic activities of urea and thiourea derivatives are shown in Table III. In both classes of compounds, the phenyl substituted derivatives were the more effective bacteriostats. The values given for the first compound in Table III are low. More recent evaluation tests have given values comparable with those listed for 1,3-di-(3,4-dichlorophenyl) thiourea. While the urea and thiourea derivatives were

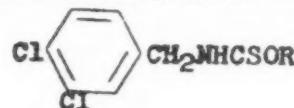
**Table II. Bacteriostatic Activities (M.I.C. I:X.10<sup>-3</sup>) of Dithiocarbamates RNHCSSR'**

R	R'	M. pyogenes					
		M. pyogenes var. aureus (S)	M. pyogenes var. aureus (R)	Sarcina lutea	Strep. faecalis	Pr. mirabilis	
4-ClC <sub>6</sub> H <sub>4</sub> CH <sub>2</sub>	3,4-Cl <sub>2</sub> C <sub>6</sub> H <sub>3</sub> CH <sub>2</sub>	320	640	320	160	160	
3,4-Cl <sub>2</sub> C <sub>6</sub> H <sub>3</sub> CH <sub>2</sub>	4-ClC <sub>6</sub> H <sub>4</sub> CH <sub>2</sub>	2,560	2,560	1,280	2,560	80	
4-NO <sub>2</sub> C <sub>6</sub> H <sub>3</sub> CH <sub>2</sub>	3,4-Cl <sub>2</sub> C <sub>6</sub> H <sub>3</sub> CH <sub>2</sub>	80	80	160	80	640	
3,4-Cl <sub>2</sub> C <sub>6</sub> H <sub>3</sub> CH <sub>2</sub>	4-NO <sub>2</sub> C <sub>6</sub> H <sub>4</sub> CH <sub>2</sub>	1,280	640	80	80	40	
3,4-Cl <sub>2</sub> C <sub>6</sub> H <sub>3</sub>	4-ClC <sub>6</sub> H <sub>4</sub>	640	640	320	640	40	

**Table III. Bacteriostatic Activities (M.I.C. I:X.10<sup>-3</sup>) of Ureas and Thioureas R NH C(X) NH R'**

R	R'	M. pyogenes					
		M. pyogenes var. aureus (R)	Sarcina lutea	Strep. faecalis	Pr. mirabilis		
3,4-Cl <sub>2</sub> C <sub>6</sub> H <sub>3</sub>	4-ClC <sub>6</sub> H <sub>4</sub>	○	1,280	2,560	10,240	10	
3,4-Cl <sub>2</sub> C <sub>6</sub> H <sub>3</sub> CH <sub>2</sub>	4-ClC <sub>6</sub> H <sub>4</sub> CH <sub>2</sub>	○	<10	20	20	10	
3,4-Cl <sub>2</sub> C <sub>6</sub> H <sub>3</sub>	3,4-Cl <sub>2</sub> C <sub>6</sub> H <sub>3</sub>	S	20,480	10,240	20,480	160	
3,4-Cl <sub>2</sub> C <sub>6</sub> H <sub>3</sub> CH <sub>2</sub>	3,4-Cl <sub>2</sub> C <sub>6</sub> H <sub>4</sub> CH <sub>2</sub>	S	2,560	2,560	2,560	>10	
3,4-Cl <sub>2</sub> C <sub>6</sub> H <sub>3</sub> CH <sub>2</sub>	4-ClC <sub>6</sub> H <sub>4</sub> CH <sub>2</sub>	S	2,560	320	2,560	>10	

**Table IV. Bacteriostatic Activities (M.I.C. I:X.10<sup>-3</sup>) of Thiocarbamates**



R	M. pyogenes		Sarcina lutea	Strep. faecalis	Pr. mirabilis
	var. aureus (S)	var. aureus (R)			
C <sub>6</sub> H <sub>5</sub>	2,560	16,000	1,280	640	320
4-CH <sub>3</sub> C <sub>6</sub> H <sub>4</sub>	2,560	2,560	2,560	640	160
4-C <sub>2</sub> H <sub>5</sub> C <sub>6</sub> H <sub>4</sub>	20,480	10,240	10,240	640	160
4-n-C <sub>3</sub> H <sub>7</sub> C <sub>6</sub> H <sub>4</sub>	2,560	2,560	2,560	640	160
4-ClC <sub>6</sub> H <sub>4</sub>	2,560	2,560	2,560	1,280	320
4-FIC <sub>6</sub> H <sub>4</sub>	640	640	640	640	160
2,4-Cl <sub>2</sub> C <sub>6</sub> H <sub>3</sub>	5,120	5,120	2,560	640	320
3,4-Cl <sub>2</sub> C <sub>6</sub> H <sub>3</sub>	10,240	5,120	5,120	2,560	640

**Table V. Bacteriostatic Activities (M.I.C. I:X.10<sup>-3</sup>) versus structure**

Structure	M. pyogenes var. aureus (S)	M. pyogenes var. aureus (R)
	2,560	5,120
	2,560	16,000
	1,280	1,280
	<10	<10
	10	10
	80	80



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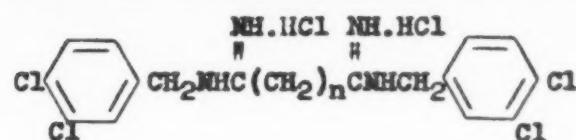
quite active in inhibiting the growth of gram-positive organisms, they exhibited very little activity against gram-negative organisms.

The final group of isothiocyanate derivatives investigated were the thionocarbamates. In Table IV the bacteriostatic activities of a series of N-3,4-dichlorobenzyl-thionocarbamates are given. Extension of these studies indicated that a fairly specific structure is necessary for optimum activity within this class of compounds. The effect of structure on bacteriostatic properties is evident from an examination of Table V. The following changes in structure decrease markedly the bacteriostatic activity of the thionocarbamates: 1. Two substituents instead of one on the nitrogen atom; 2. Interchange of sulfur and oxygen atoms to give thiocarbamates; and 3. Insertion of a methylene bridge between the phenyl group and oxygen atom.

Since all the foregoing compounds lost most of their bacteriostatic activities in the presence of serum, attention was turned to an investigation of compounds possessing functional groups containing nitrogen. Table VI lists the bacteriostatic activities of several bisamidine derivatives in which the only variation is the number of methylene units between the two amidine groups. At present highest activities have been recorded for the compounds containing eight to 10 methylene units in their structure. These two compounds retain a large part of their microbiological growth inhibitory activity in the presence of serum. If the 3,4-dichlorobenzyl groups of the bisamidines are replaced by 3,4-dichlorophenyl groups, much less effective bacteriostats result.

Similar studies were conducted on the bisguanidine derivatives with similar results. The most effective member of the series was 1,10-bis-(3,4-dichlorobenzyl-guanidino)-decane dihydrochloride, which retained most of its growth inhibitory properties in the

**Table VI. Bacteriostatic Activities (M.I.C. I:X.10<sup>-4</sup>) of Bisamidines**



	M. pyogenes var. aureus (S)	M. pyogenes var. aureus (R)	Sarcina lutea	Strep. faecalis	Pr. mirabilis
4	640	320	5,120	160	80
6	320	320	5,120	160	20
8	2,560	5,120	10,240	640	40
10	2,560	2,560	5,120	2,560	80

presence of serum. Once again the 3,4-dichlorobenzyl derivative was more effective than the 3,4-dichlorophenyl derivative.

A summary of relative bacteriostatic effectiveness of 3,4-dichlorophenyl and 3,4-dichlorobenzyl groups is given in Table VII. Bacteriostatic values under consideration in this comparison were determined for *Micrococcus pyogenes* var. *aureus*. This table shows that 3,4-dichlorophenyl groups substituted in amides, ureas, thioureas, carbamates and thionocarbamates produce more active bacteriostats than the corresponding compounds with 3,4-dichlorobenzyl substituents. On the other hand, compounds containing basic groups such as amidino, guanidino, etc., are more effective bacteriostats when substituted on one of the nitrogens of the basic groups with 3,4-dichlorobenzyl rather than 3,4-dichlorophenyl.

This work together with

prior observations enables one to predict with a fair degree of accuracy whether the 3,4-dichlorophenyl or 3,4-dichlorobenzyl substituent will give the most effective bacteriostat in a particular class of compounds. Although this statement remains to be verified by further experimentation, such observations will undoubtedly be shaping the future progress in the field of synthetic bacteriostats. Both 3,4-dichloroaniline and 3,4-dichlorobenzyl chloride are commercially available. The latter compound is still expensive but it is becoming more feasible to consider intermediates for the synthesis of highly effective bacteriostats.

#### Acknowledgment

The bacteriostatic values were determined by Dr. H. A. Baker of Ayerst, McKenna and Harrison Ltd., Montreal, Quebec.

(Turn to Page 109)

**Table VII. Relative Bacteriostatic Effectiveness of 3,4-Dichlorophenyl and 3,4-Dichlorobenzyl Groups in Different Types of Compounds**

Compounds	3,4-Dichlorophenyl	3,4-Dichlorobenzyl
Glycinamides	16 X <sup>a</sup>	
Ureas	128 X (R)	
Thioureas	9 X	
Carbamates	250 X	
Thiocarbamates		
Ester Group	256 X	
N-Group	—	
Dithiocarbamates		4 X
Amidines		8 X
Guanidines		32 X

<sup>a</sup> The values given in this table represent only order of magnitudes and they should not be considered otherwise. Considerable variations occur within each class of compounds.

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Shanco L-1159 is applicable to high wax, buffable emulsion formulations in the range of eight to eighteen per cent of the total. The potent gloss, leveling and hardening effects of the resin allow its use in lower than average quantities thus enhancing buffability.

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Melting Point—R & B	168-178°C
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Color—Gardner	9-11
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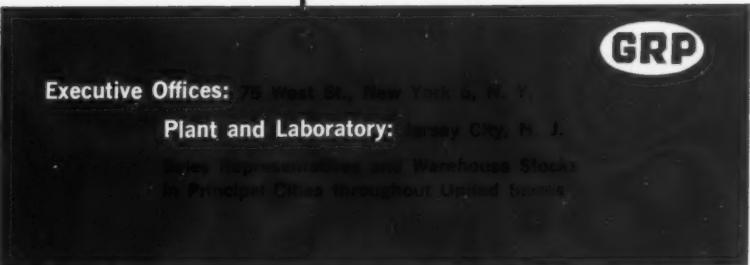
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**Table VIII. Effect of Ethyl Alcohol upon Foam Stability**

Composition of Emulsion System (wt %)				
Propylene glycol	Propylene glycol monostearate	Absolute ethyl alcohol	"F-12"/"F-114" (40/60)	Foam stability
86	4	—	10	48-72 hrs.
81	4	5	10	48-72 hrs.
76	4	10	10	24-48 hrs.
71	4	15	10	1 minute

**Foam Aerosols**

(From Page 95)

ution. The mixture was then forced through a hand homogenizer. Use of the hand homogenizer gave much finer emulsions than could be obtained merely by heating the mixture and cooling with stirring.

**Effect of Other Solvents***A. Ethyl Alcohol*

Ethyl alcohol has many desirable properties as a component of cosmetic and pharmaceutical formulations. It has low toxicity and very good solvent properties. However, if present in sufficient concentration, ethyl alcohol will destabilize emulsions. In the non-aqueous emulsions, concentrations of ethyl alcohol up to about 10% by weight may be added without seriously affecting foam stability. Concentrations of 15% may have an adverse effect. Effect of ethyl alcohol upon foam stability is shown in Table VIII.

The mechanism by which ethyl alcohol destabilizes the foams is not known but it is probably related to the fact that ethyl alcohol is a good cosolvent for propylene glycol and the "Freon" propellants. At a concentration of 10% ethyl al-

cohol, the mixture of propylene glycol, ethyl alcohol, and propellants 12/114 (40/60) is not homogeneous. The components are not mutually soluble and form two liquid phases. This system forms an excellent foam when propylene glycol monostearate is present as an emulsifying agent. At a concentration of 15% ethyl alcohol, the mixture of propylene glycol, ethyl alcohol, and propellants 12/114 (40/60) is homogeneous. All of the components are mutually soluble and the system does not form a stable foam. These results correlate with those observed previously with the glycols alone, i.e. that the glycols with the best solubility for the propellants gave the poorest foams. In this case the mixture of propylene glycol and 15% ethyl alcohol might be considered as a glycol that is miscible with the propellant.

An interesting series of pressure sensitive foams may also be formulated by the addition of ethyl alcohol to the emulsion. An emulsion containing 76% polyethylene glycol 400, 10% ethyl alcohol, 4% self-emulsifying propylene glycol monostearate, and 10% propellants 12/114 (40/60), for example, gives an excellent foam. However, pressure of the hand on the foam causes an immediate breakdown of the

foam structure with liquefaction of the foam. The degree to which the foam is sensitive to pressure may be regulated by the proportion of ethyl alcohol that is added.

*B. Water*

Water may also be added to the emulsion system to provide increased solvent power for water soluble active ingredients. Water has a marked detrimental effect upon foam stability, however, and should be omitted if possible. The effect of varying concentrations of water upon foam stability is demonstrated in Table IX.

Addition of water to the emulsion system decreases solubility of the propellant in glycol slightly and on this basis would not be expected to decrease stability of the foam. However, with water present, the system is no longer nonaqueous and propylene glycol monostearate does not give particularly good foams with aqueous aerosol systems.

**Emulsion System Pressures**

Various pressures of the emulsion systems in general are slightly below those of pure propellants. The emulsifying agent has no effect upon pressure. Pressures of a number of representative emulsions are given in Table X. The samples were prepared by pressure filling but the vapor phases of the samples were purged thoroughly before the containers were capped. Mixtures without emulsifying agents are included to show that the emulsifying agent has no effect.

Addition of other solvents, such as ethyl alcohol, would affect the pressures, of course.

**Table IX. Effect of Water upon Foam Stability**

Composition of emulsion system (wt %)				
Propylene glycol	Propylene glycol monostearate	Water	"F-12"/"F-114" (40/60)	Foam stability (hours)
86	4	—	10	48-72
81	4	5	10	24-48
76	4	10	10	4-24
71	4	15	10	4-24
66	4	20	10	4-24

**Table X. Pressures of Emulsion Systems**

Composition of emulsion system (pts. by wt.)				
Propylene glycol	Propylene glycol monostearate	"F-12"	"F-12"/"F-114" (40/60)	Pressure (psi at 70°F)
86.0	—	10.0	—	67.5
86.0	4.0	10.0	—	66.5
86.0	—	—	10.0	37.0
86.0	4.0	—	10.0	38.0

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## Potential Aerosol Products

The nonaqueous foam systems offer a number of possibilities for aerosol products, including applications such as vaginal foams, suntans, ointment bases, burn preparations, antiperspirants, etc. Table XI lists a number of formulations that might be considered as starting points for such products.

Storage stabilities of nonaqueous foam systems have not been investigated. Therefore, in the formulation of any products with these systems, it is essential that the storage stability of the formulation be studied. Such factors as the effect of the glycol system upon container linings and components of the valve must be determined. Likewise, extensive tests must be carried out to insure that agglomeration of the dispersed surface active agent does not take place during storage with subsequent clogging of the valve or leakage of propellant. In formulating pharmaceutical products in particular, studies must be carried out to determine if any loss of activity of the active ingredients occurs during storage.

As previously mentioned, nonaqueous foam products are prepared with a relatively nonvolatile base. Therefore, they are not suitable for applications where rapid drying is desired.

The formulations in Table XI were prepared with active ingredients commonly used in products for these applications. No search has been made to determine if the use of any of the components of the formulations is covered by existing patents. Therefore, the patent situation with respect to any of the products must be investigated before marketing is considered.

## Summary

A new aerosol emulsion system producing nonaqueous foams is discussed. In this system, glycols or glycol derivatives have been substituted for the water in conventional formulations. Foam stability may be varied to obtain very stable

foams or quick-breaking foams by proper selection of the glycol, the surface active agent, or the propellant in the aerosol formulation. A number of potential aerosol products utilizing this system are presented. ■

## References

1. E. I. du Pont de Nemours and Co., "Freon" Aerosol Report, FA-25, "Studies of 'Freon' Propellant/Glycol Systems."
2. Dow Chemical Co., Technical Bulletin, "Dow Propylene Glycol, USP."
3. Glycerine Producers' Association Technical Bulletin, "Why Glycerine for Drugs and Cosmetics?"
4. Union Carbide Chemicals Co., Tech-

nical Bulletin, "Carbowax" Polyethylene Glycols."

5. Glyco Products Co., Technical Bulletin, "Esters by Glyco,"
6. Atlas Powder Co., Technical Bulletin, "A Guide to Cosmetic and Pharmaceutical Formulation with Atlas Products."
7. Clayton's "The Theory of Emulsions and their Technical Treatment," Fifth Edition, The Blakiston Company, Inc., New York, 1954.

— ★ —

## Stepan Sets Record

Stepan Chemical Co., Chicago, last month reported record sales and earnings for the first half of this year.

Net sales in the period ended June 30 totaled \$12,534,042, an increase of 44 per cent, compared with \$8,693,658.

Net profit of the company and its subsidiaries increased 59 per cent to \$751,229, or \$1.12 a share, from \$472,566, or 70 cents a share, in the same period in 1959.

## Polymer Emulsions

(From Page 81)

reduction of forces in the polymer resisting deformation and greater deformability of the particles leading to a lower MFT. This effect is related to pH levels reached which actually are a measure of the degree of conversion of the acid to the water sensitive salt.

When a film is deposited from a system wherein a volatile amine is used to swell the polymer, the resulting salt reverts back to its more hydrophobic acid form with consequent improvement in water resistance.

## Application to Polishes

Considerable time could be expended on discussing applicability to floor polishes of the factors functioning in film formation with polymer emulsions. A detailed discussion of this type is somewhat beyond the scope of this presentation. Several facts are, however, worthy of special emphasis.

The variation in film properties resulting from thermal changes is of particular interest to the floor polish field because of the

Table XI. Suggested Formulations for Nonaqueous Aerosol Foam Products

SUN SCREEN	Wt. %
Propylene glycol	76.0
Glycerine	6.0
Dipropylene glycol salicylate	4.0
Self-emulsifying propylene glycol monostearate	4.0
"F-12"/"F-114" (40/60) propellant	10.0
INSECT REPELLENT	
Propylene glycol	66.0
Glycerine	6.0
N.N diethyltoluamide	14.0
Self-emulsifying propylene glycol monostearate	4.0
"F-12"/"F-114" (40/60) propellant	10.0
WATERLESS LEATHER CONDITIONER	
Propylene glycol	66.0
"Vee gum"*	0.5
Hexachlorophene	0.5
Neatsfoot Oil	3.0
Beeswax	5.0
Carnauba wax	10.0
Soluble lanolin	1.0
Self-emulsifying propylene glycol monostearate	4.0
"F-12"/"F-114" (40/60) propellant	10.0
OINTMENT BASE	
Polyethylene glycol 400	86.0
Self-emulsifying propylene glycol monostearate	4.0
"F-12"/"F-114" (40/60) propellant	10.0
ANTIPERSPIRANT	
Propylene glycol	68.8
Self-emulsifying propylene glycol monostearate	4.0
Aluminum chlorhydroxy ethylate**	17.2
"F-12"/"F-114" (40/60) propellant	10.0

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severe toughness requirements in the floor dressing applications. The various degrees of film fusion, in the range undetectable by visual observation are of utmost significance and the pertinent facts should always be taken into consideration. Specifically, in the use of emulsion polymers sufficient formulating allowances should always be made to insure an adequate degree of film fusion for attaining satisfactory film strength.

There are many ways to formulate suitable polymers for the floor dressing field. Many times a properly designed copolymer in combination with correctly selected fluxing aids will offer the optimum balance of filming and hardness properties. At times, blending of two or more polymers may be used to achieve a certain specific balance of MFT and film hardness relationship. If the latter formulating approach is pursued, the data presented in this paper show that very careful consideration must be given to the selection of the individual blend components to avoid any gain in filming properties at the expense of toughness characteristics of the resultant film. Incorrectly formulated blends may lead to poor wear properties, inferior mar resistance and other deficiencies in performance.

Many of the emulsion polymers offered to the floor polish industry are formulated with acidic constituents to attain built-in alkali removability properties. With many such systems hydroplasticity can be satisfactorily utilized and a careful control of this property can upgrade many products.

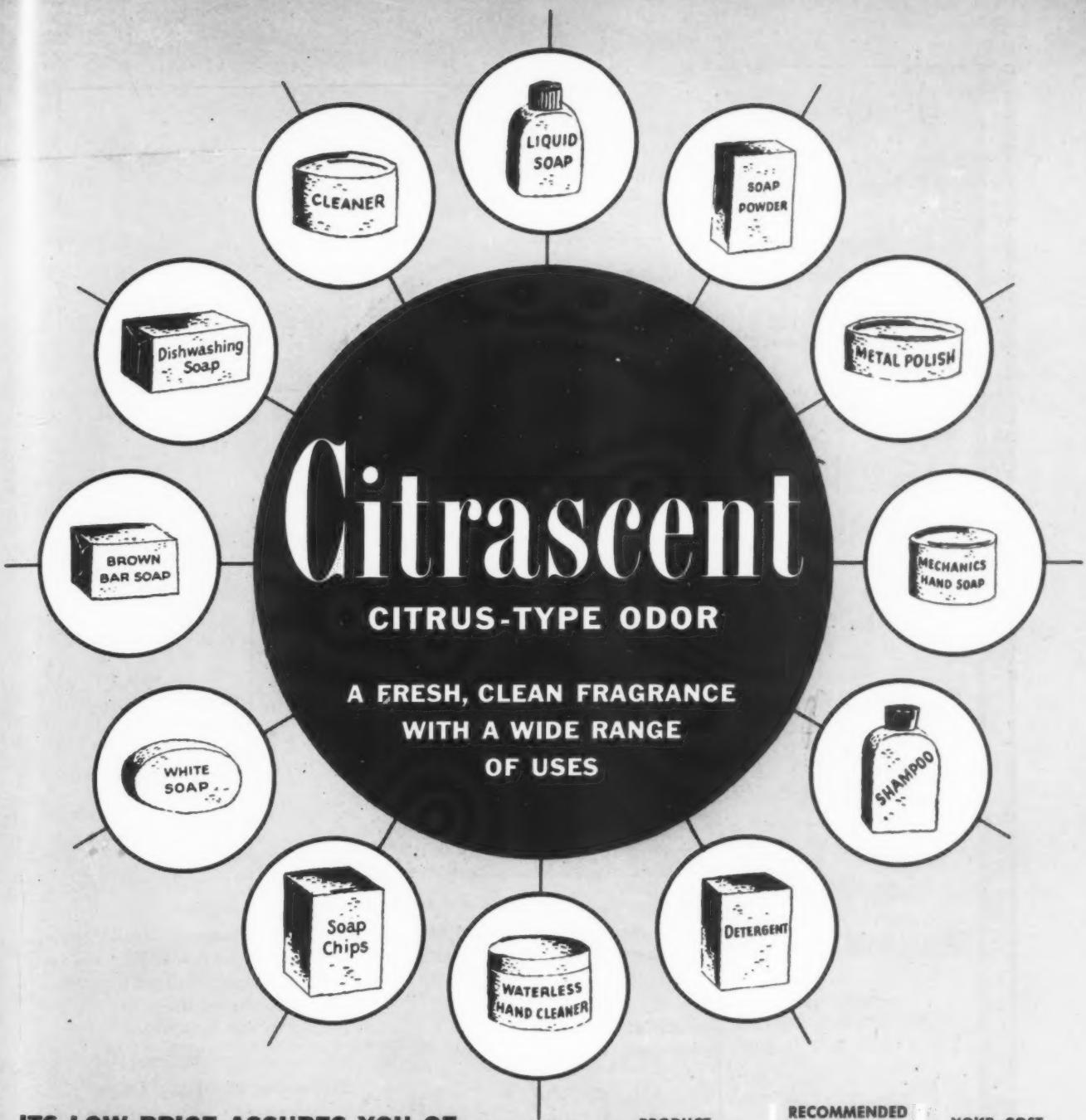
### Summary

Many factors exert a significant influence on the filming properties of emulsion polymers. Their existence was initially discussed in the Zdanowski/Brown paper presented before C. S. M. A. in 1958. Evaluation of the magnitude of some of these factors was discussed in the present paper. Application of these basic principles of filming

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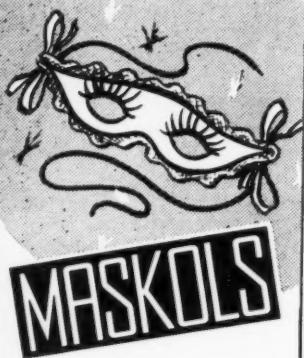
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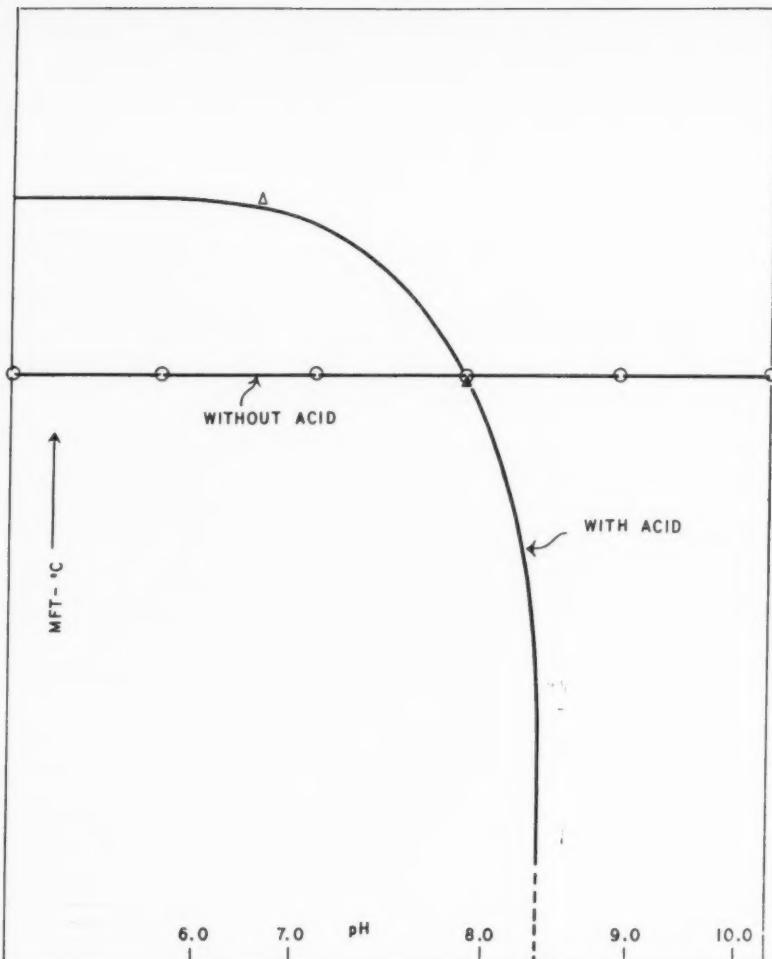
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Graph 4. Effect of acid on MFT of EA/MMA copolymer.

technology to formulation of floor polishes based on emulsion polymers was also covered.

### References

1. Film Forming Characteristics of Emulsion Polymers—R. Zdanowski and G. Brown—44th Mid-Year Proceedings of C.S.M.A., May, 1958.
2. Uses and Formulation of Acrylic Emulsion Polymers—G. Brown and R. Zdanowski—*Soap and Chemical Specialties*, March, 1959.

monium chlorides, oxyalkylation products, and colloidal silicas. Physical characteristics of the chemicals and some of their uses are included in the bulletin.

— ★ —

### Hercules Acetone Data

Acetone and its uses is the subject of a 12-page technical bulletin (NS-277), which has just become available from Hercules Powder Co., Wilmington 99, Del. Hercules acetone is made by the firm's cumene oxidation process at Gibbstown, N. J.

Covered in this booklet are specifications, typical analysis, sales information, properties and chemistry of acetone. A special section is devoted to a partial list of applications of acetone as an organic solvent, processing and manufac-

### Nalco Chem. New Booklet

A broad spectrum of cationic and non-ionic surface active agents, ranging from fatty nitrogen derivatives to polyether alcohols are described in a four page booklet—K6, available from Nalco Chemical Co., 6216 W. 66th Place, Chicago 38.

Among other chemicals discussed are fatty quaternary am-

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**1** Make up only small amounts at first. Experiment and evaluate until you arrive at properties desired. Then try a production batch using the reaction conditions that gave best trial results.

**2** Use only highest quality starting materials. ALLIED CHEMICAL ETHANOLAMINES are manufactured by an improved process which assures purity.

**3** Use different ratios of ethanalamine to fatty acid to vary properties. A 1:1 mol ratio produces the simple amides. Reacting more than one mol of fatty acid results in a mixture of amides, ester amines, ester amides and soap; the 2:1 mol ratio products are more widely used because of better solubility characteristics.

**4** Ask your supplier for the molecular weight, saponification value, for each shipment of fatty acid. Allied Chemical supplies the equivalent weight for each shipment of ethanalamine. With the figures right there, you can calculate the charge quickly and accurately.

**5** Start with diethanolamine if water solubility is important. The monoethanolamides are better foam stabilizers, but are less soluble.

**6** Keep the temperature down if you substitute fatty oils (glycerides) for the acids since the higher temperature will distill off glycerine. To prevent localized overheating, use steam in preference to a gas flame as the heat source.

**7** Use the methyl esters of the fatty acids when you can. You'll get purer condensates.

**8** Make provision for good agitation and constant water removal during heating period.

**9** Remove different amounts of water to vary properties; your own application will determine optimum amounts to be removed.

**10** Change reaction temperature to vary properties. For satisfactory reaction, 170°C is the maximum and about 150°C the minimum.

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turing aid, and as a chemical intermediate.

### Detergent Session

(From Page 48)

ture removal from soap, a disadvantage eliminated by vacuum drying, the speaker pointed out. An early attempt to modify drying equipment was made by Houchin Machinery Co. which engineered "Cascade" plodders. This method, however, was apt to lead to skin formation and cracked soap bars, Mr. McCutcheon recalled.

In 1941, Procter & Gamble Co. took out patents on a vacuum plodding installation. Various modifications were developed by other concerns. The Victor Mills method assigned to P&G called for partial moisture removal under vacuum to produce toilet soaps of the non-plodded type.

More recently a continuous and automatic process based on a vacuum dryer and an automatic amalgamator was developed by C. Mazzoni and assigned to G. Mazzoni S.p.A., Busto Arsizio, Italy. Widely used in Europe and South America this process gives the soap maker wide latitude in selection of fats and other components used to make a high quality toilet bar, Mr. McCutcheon pointed out. Since the soap is worked while in a plastic state, steam and power requirements are reduced, Mr. McCutcheon explained. Another virtue of the installation is economy in

John W. McCutcheon



space. To process one ton of soap by the Mazzoni method, 300 pounds of steam and two man hours are required, compared with 900 pounds and four man hours by the chip drying method, the speaker reported.

Viscosity of the product is easily controlled in this method by adjustment of temperature and vacuum. Since exposure of the soap mass to high temperature is avoided, formation of the beta-phase is encouraged and less perfume is needed. Suitable adjustment of processing conditions permits use of a wide range of materials including rosin to make transparent bars. Mr. McCutcheon reported that he had inspected plants using the Mazzoni process to good advantage in Brazil, Uruguay and Peru. He also showed a transparent soap bar made in one of these establishments. ■

### Detergent Patents

(From Page 54)

tion; naturally he tries to obtain as many claims as he can, to avoid overlooking anything in his disclosure that is valuable. The more thoroughly the patent office and the inventor check both claims and disclosure for errors, the greater assurance the inventor has that his patent will be valid. Final test of validity lies in the courts of law. In the disclosure which represents an informative piece of literature, the inventor has some leeway since he can always say the information is directed at "one skilled in the arts" which can be highly ambiguous even to the "skilled." For example the inventor may state that the addition of 0.5 to 20 parts of water per 100 parts of reactant are needed, but for best results he prefers to employ a somewhat narrower range of water, namely 1 to 5 parts. Pleasingly indefinite but still intriguing!

Patents are not easy to read, particularly the claims. Abstracting of patents is even harder and abstracts seldom contain any reference to the general purpose of the

patent which the introduction frequently cites with supporting data from other patents and articles. The research worker can certainly not afford to be without access to the section of the patent literature closest to his work. Although to a lesser degree, patents are still extremely important to the process engineer, the sales development engineer, the analytical chemist, equipment design engineer, consultant and librarian who prepares periodic reviews.

Several years of study were devoted by the author to the development of a patent service specialized in the soap, detergent, oil and fat fields. From the very start it was apparent that such a service must be sufficiently inexpensive to be within the reach of the largest possible number of users and yet sufficiently high-priced to permit maintenance of high standards and prompt service. To serve a wide variety of clients as well as possible, the information had to be split into segments, so that subscribers requiring patents on soap would not be forced to purchase those on fats.

Because patents actually are concentrated and complex articles, they must be presented to the client in full by some means of photo duplication with a coded abstract card for easy reference. In addition, it is essential to translate patents from foreign languages and to attach the translation to the original copy. The service must process a thousand or more patents a year covering 4,000 to 5,000 full size pages, including approximately 300 foreign patents with their complete translations. It must provide a coded abstract card for each patent and must include copies of expiring patents. All this adds up to a monumental task. Such a service is currently being started by the author who will supply details on the system in bulletin form.

To start the service, special arrangements had to be made for a photo offset operation, including use of a "Kenro" vertical camera of latest design, capable of accur-

ately duplicating sheets up to newspaper size; the latest type 1250 multilith offset press, and supplementary equipment needed to make the unit complete from copy to press. This system will provide a compact, quick, reliable and confidential service which cannot be obtained by other means. Abstract cards will be offset and electrically punched on McBee equipment.

Patents will be color coded: Differently colored paper stock will be used for patents in each category, making classification visual, easy and positive. Classes are: (1) Soaps and glycerine; (2) Detergents and emulsifiers; (3) Fats and oils; (4) Fatty acids and their derivatives.

A typical coded card, shown in Fig 1., carries principal data supplied plus coding which includes card number, patent number, the first two letters of the first inventor's name, the year of issue and the patent class and type. Additional code numbers are available for the subscriber's use. To maintain simplicity, the single hole McBee punch card system has been selected, which the author has successfully used for over twelve years on the "Detergent File."

Mechanics of the system and suitable foreign liaison have been set up and service will start January 1st 1961 with the mailing of the first semimonthly group of patents. Price of the service is given in the separate bulletin mentioned above and available on request. Pricing is based on about 300 patents per year in each of the four sections at an average cost of approximately \$250.00 per year. This price represents a cost of about 25 cents for each patent, \$2.00 each for the estimated 75 foreign patents requiring translations and 10 cents each per coded card. Numbers of patents issued and translations needed represent a statistical figure arrived at by careful survey and analysis of patents issued over the past 10 years. It is the writer's hope that this service will prove of value to all companies within the field cov-



## MAGNADOR

No. 41 MM&R

Water-Soluble Space Deodorant

Banishes Unpleasant Odors  
in a Few Seconds

- Replaces unpleasant odors with a clean, fresh, almost imperceptible fragrance

- All purpose deodorant. Overcomes odors associated with . . .

- Cats and dogs, dead rats, garbage receptacles, hospitals, kitchens, laundries, musty places, stale tobacco smoke, toilets, veterinary establishments, and many others

- Easy to use: In wick bottles, in open pans, as a space spray, in scrub water

- Supplied in bulk only. Dilute with water for use

- Most economical

Literature and price list  
available on request.

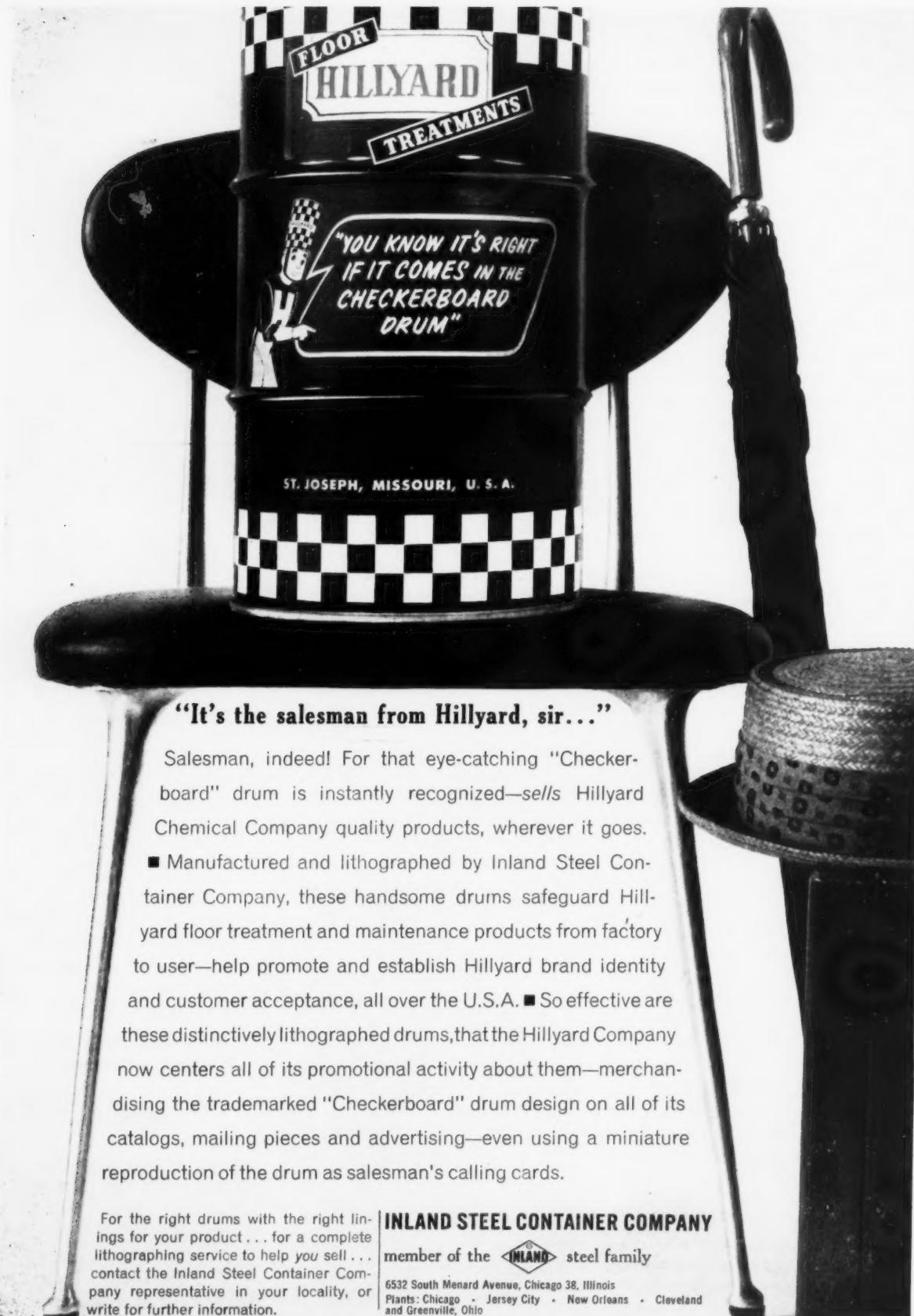


**MAGNUS, MABEE & REYNARD, INC.**

Since 1895 . . .

The World's Most Famous Supplier of  
Essential Oils and Concentrated Flavors

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### "It's the salesman from Hillyard, sir..."

Salesman, indeed! For that eye-catching "Checkerboard" drum is instantly recognized—sells Hillyard Chemical Company quality products, wherever it goes. ■ Manufactured and lithographed by Inland Steel Container Company, these handsome drums safeguard Hillyard floor treatment and maintenance products from factory to user—help promote and establish Hillyard brand identity and customer acceptance, all over the U.S.A. ■ So effective are these distinctively lithographed drums, that the Hillyard Company now centers all of its promotional activity about them—merchandising the trademarked "Checkerboard" drum design on all of its catalogs, mailing pieces and advertising—even using a miniature reproduction of the drum as salesman's calling cards.

For the right drums with the right linings for your product... for a complete lithographing service to help you sell... contact the Inland Steel Container Company representative in your locality, or write for further information.

#### INLAND STEEL CONTAINER COMPANY

member of the  steel family

6532 South Menard Avenue, Chicago 38, Illinois  
Plants: Chicago • Jersey City • New Orleans • Cleveland  
and Greenville, Ohio

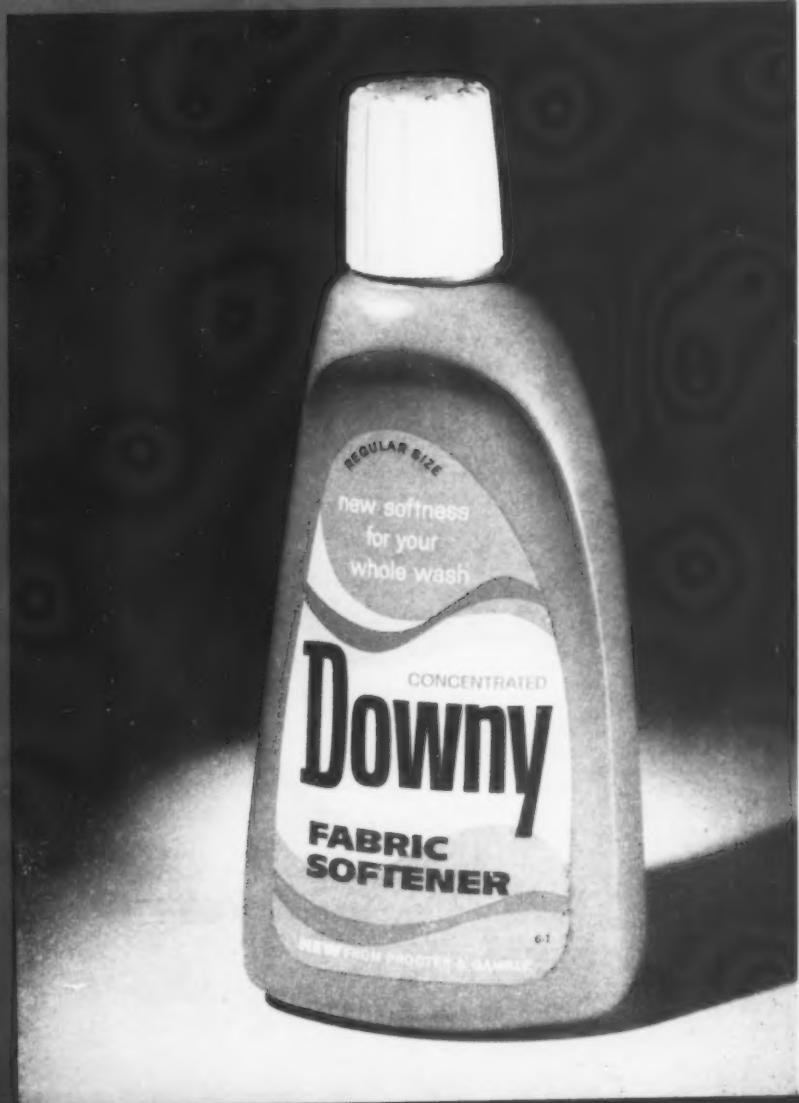
# Packaging . . .

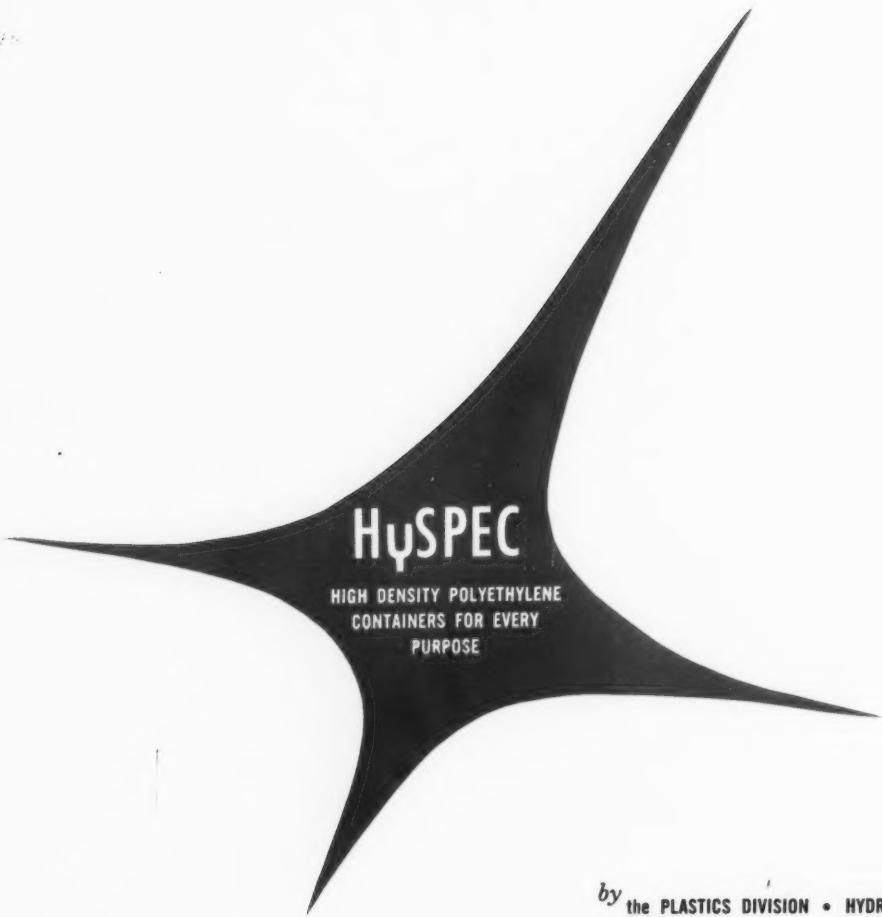
**AEROSOLS • LIQUIDS • PASTES • POWDERS**

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Metal Cleaners  
Moth Products  
Polishes  
Shampoos  
Shave Products  
Soaps  
Liquid Starch  
Toiletries  
and other  
Chemical Specialties

*A market for over 28  
billion packages annually*

Concentrated "Downy" fabric softener, latest addition to growing line of chemical specialties made by Procter & Gamble Co., Cincinnati, comes packaged in Owens-Illinois sculptured plastic bottle. Regular size (17 ounces) retails for 49 cents. Bottle is light blue. Paper labels, front and back, are printed in dark blue on overall red and pink colored background.





by the PLASTICS DIVISION • HYDROCARBON CHEMICALS, INC.  
LOS ANGELES, CALIF. LOCUST ST., KEYPORT, N. J.

# packaging notes

## Hait Joins Vulcan

Selden G. Hait has been named to the sales staff of Atlantic-Vulcan Steel Containers, Inc., Peabody, Mass.



Selden G. Hait

body, Mass., it was announced recently by Gordon D. Zuck, president.

Mr. Hait, previously in technical sales with Harshaw Chemical Co. for 20 years, will be contacting users of steel pails and specialty tin cans throughout New England and the eastern states.

Atlantic-Vulcan Steel Containers, Inc., manufactures a complete line of steel pails of one through seven gallon sizes—"Hi-Bake" lined—lithographed and printed—all special openings, and a full line of slip cover cans.

The Peabody unit is one of seven steel container manufacturing plants of Vulcan-Associated Container Companies, Inc., Birmingham, Ala., serving chemical specialties manufacturers throughout the country.

## Ellis Adopts New Name

A new name, Ellisco, Inc., has recently been adopted by George D. Ellis & Sons, Inc., Philadelphia can manufacturing firm.

The 117-year-old firm has plants in Philadelphia and Camden, N. J., where a wide variety of

metal cans and metal specialties are manufactured.

According to H. K. Taylor, Jr., president, the name change was brought about by customers constantly referring to the shorter name "Ellisco" and by the fact that no member of the Ellis family has been associated with the company for many years. No change in corporate management, operation or policies is involved.

— ★ —

## New IMCO Distributor

IMCO Container Co., Kansas City, Mo., recently appointed Wilson Plastic Container Corp., 25 North 3rd St., Brooklyn, as its new distributor. Wilson will represent IMCO in New Jersey, Connecticut, eastern Pennsylvania and New York.

Wilson's executive offices are located at the New York address where they also maintain a warehouse to inventory IMCO's widely diversified line of plastic containers and closures. A similar facility is located at 170 Blanchard St., Newark, N. J. Wilson operates its own fleet of trucks from these warehouses for delivery to customers on the east coast.

Officers of Wilson are: president, Griffin Crafts; vice-president in charge of sales, Arthur W. Penman, and secretary, John E. Booth.

Griffin Crafts



## Brockway Acquires Firm

Brockway Glass Co., Brockway, Pa., recently acquired the Celluplastic Corp., Fitchburg, Mass., manufacturer of injection-molded and extruded containers, in exchange for 52,000 shares of Brockway common stock.

Finley B. Hess, president of Brockway said, "the newly acquired facilities will be operated as a wholly owned subsidiary under the name Cellplastics, Inc.

Brockway, a major producer of glass containers, recently opened a plant in Boston for production of blown plastic bottles, on a machine of its own design.

Celluplastic Corp., in existence over 40 years, employs approximately 165 people and has annual sales of \$2,500,000.

New officers are Mr. Hess, chairman; Robert L. Warren, Jr., president; J. D. Proctor, vice-president and general manager and Anthony Nichols, vice-president. The board of directors will be identical with the present board governing Brockway Glass.

— ★ —

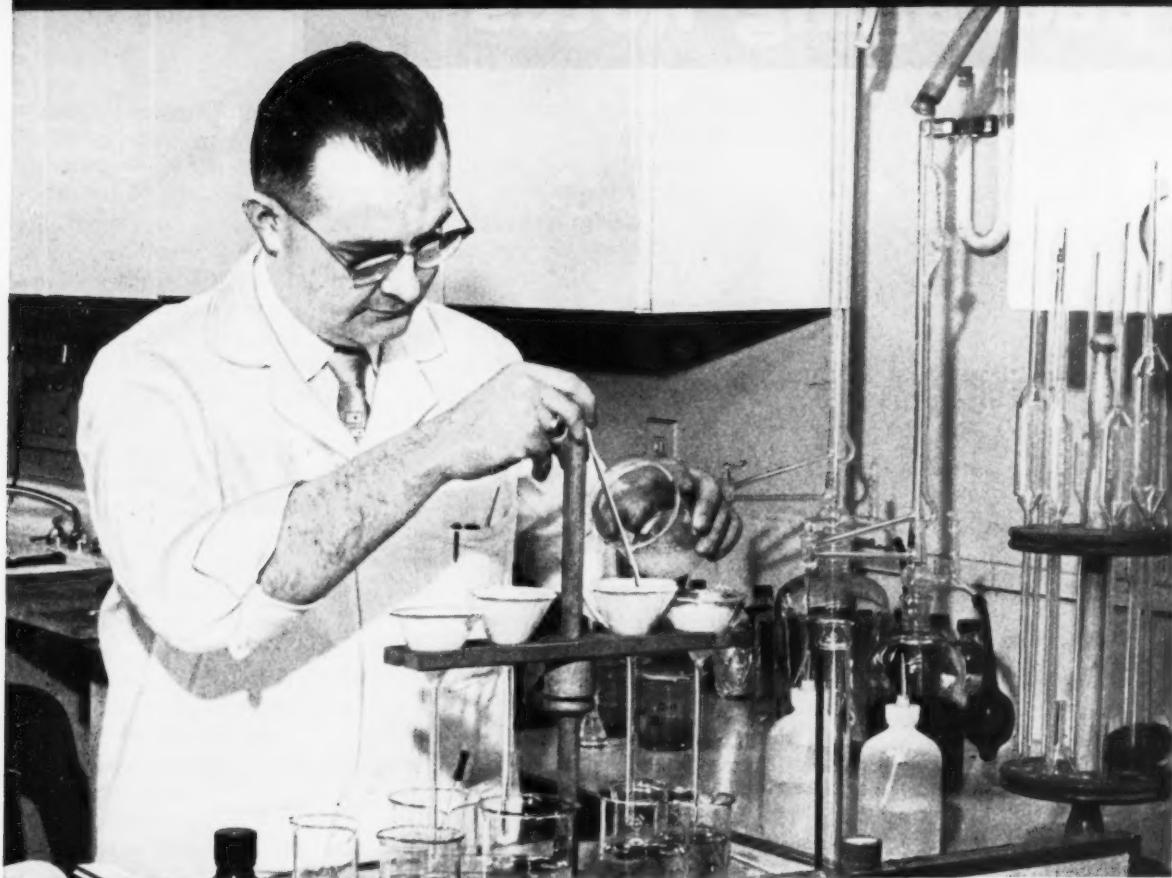
## New "Miniature" Brochure

A new brochure by Miniature Brands division of Merry Manufacturing Co., Cincinnati, describes the potential uses of product miniatures in merchandising.

Arthur W. Penman



**The contract packager had the answer...another success story from the ISOTRON file.**



## He guards your good name in aerosols

Wonder whether a contract packager can meet your high standards of quality? You can relax if Aerosol Techniques, Inc., of Bridgeport, Conn., handles your job. This outstanding firm has the experience, people and equipment to accomplish the most exacting program of quality control for the most exacting marketer.

Such a program is tailored to your product when an ATI account executive accepts your order. Quality control procedures are set up to meet your precise specifications. All incoming packaging materials are rigorously examined; in-process testing further assures the quality of your product; and frequent

testing of retained samples is another quality check. In the filling of cosmetic, pharmaceutical, food, household, industrial and chemical aerosols, ATI's product development laboratories, research, technical and service staffs can serve you well.

An experienced packager like ATI can help reformulate your product to achieve the quality results you want. His recommendation of the proper can, valve and propellant is invaluable, too. More than ever, quality-conscious packagers specify Pennsalt ISOTRON® . . . the extra-pure, extra-dry propellents that are factory-sealed for your protection.

**ISOTRON—The Key to Modern Living**



Isotron Department  
PENNSALT CHEMICALS CORPORATION  
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Miniature Brands division fills, bottles, and labels small scale product replicas in boxwood, glass, plastic, paper and lithographed cans for use in promotional programs, utilizing such national brand products as "Brillo," "Tide," "Dutch Cleanser," "Windex," and many others.

Merry Manufacturing Co. currently produces more than 200,000,000 units a year.

— ★ —

### Olin Mathieson Expands

Operations are now under way at the new corrugated container plant of the packaging division of Olin Mathieson Chemical Corp., St. Louis, it has been announced by Kent Anderson, product manager, containers.

The new one-story building at 4540 Swan Avenue is a 38,000 square foot plant and has a production capacity of 25,000,000 square feet of corrugated containers a year. The facility has a fully equipped container design laboratory, and a package designer will work with customers in developing new or modified packages to improve their packaging programs.

— ★ —

### Inland Steel Promotes Loyd

J. Daniel Ray, sales vice-president of Inland Steel Container Co., Chicago, drum and pail manufacturing division of Inland Steel Co. announced early in October that James F. Loyd had been appointed sales manager, southern region. Mr. Loyd, formerly sales

James F. Loyd



Salesmen and representatives of Vulcan Steel Container Co. from 11 southeastern states met at firm's headquarters in Birmingham, Ala., recently, to discuss plans for a stepped-up program of sales-service. Vulcan's steel pail and drum manufacturing plant is one of seven steel container plants of Vulcan-Associated Container Co.

representative in southern Texas, will now be located at the division's New Orleans plant. He will be succeeded in southern Texas by Joseph B. Bush, formerly in charge of customer service at the New Orleans plant.

— ★ —

### GCMI to Meet

The semi-annual membership meeting of the Glass Container Manufacturers Institute will be held at the Boca Raton Hotel, Boca Raton, Fla., from Monday, November 28 through Thursday, December 1st, according to a recent announcement by Victor L. Hall, GCMI's general manager.

General sessions will be held on November 29th and December 1st, with the semi-annual membership meeting scheduled for November 30th. Committees are to meet separately throughout the four-day session.

Speakers at the general meetings include Hanson Baldwin, military editor of *The New York Times*, and P. W. Hoguet, president of the Econometric Institute. Mr. Hoguet's presentation will deal with the general business outlook for 1961 with special reference to glass containers.

Other speakers will include Fred N. Dundas, GCMI president, and members of the GCMI staff.

E. M. Terner of Metro Glass, Division of National Dairy Products Corp., is chairman of the program committee which includes

G. F. Collins, Jr., Liberty Glass Co., and R. H. Hetzel, Armstrong Cork Co.

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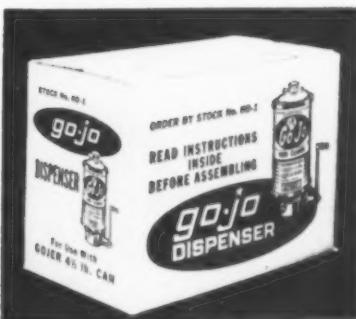
### O-I Advances Pilsbury

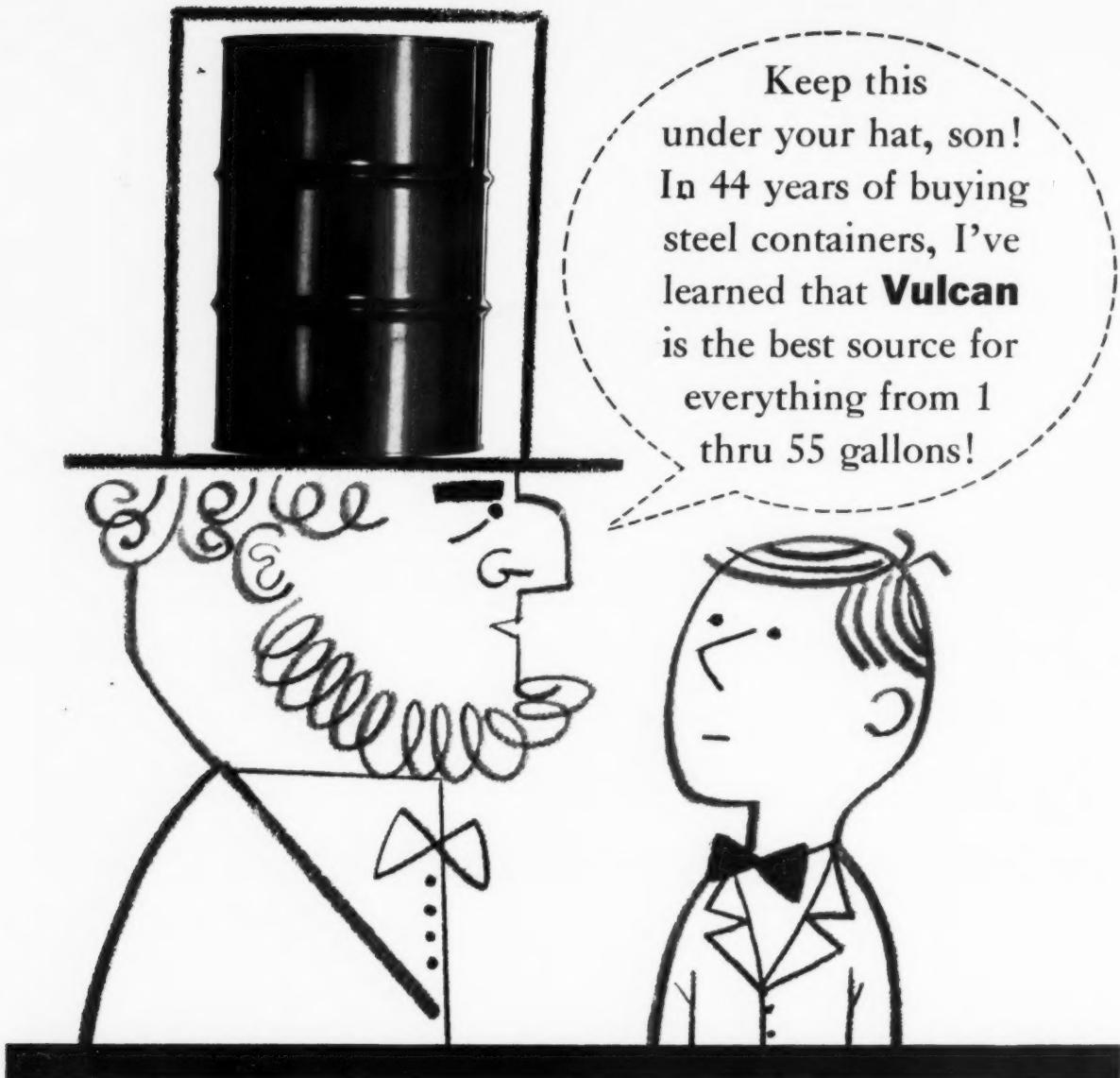
Advancement of Richard C. Pilsbury, manager of drug and chemical sales in the New York branch of Owens-Illinois Glass Co., Toledo, to western regional sales manager, with headquarters in Chicago, was announced recently. He has been with Owens-Illinois since 1947.

— ★ —

### Gojer Re-designs Package

Gojer, Inc., Akron, O. hand-cleaner manufacturer, has announced the re-design of the carton for its "Go-Jo" heavy duty dispenser. Printed in red and blue on a gray tweed-like background, the new package for "Go-Jo" dispensers was designed to achieve a clean, contemporary look of quality. The company's "Go-Jo" trademark has also undergone re-design, and is prominently featured in its new form.





Keep this  
under your hat, son!  
In 44 years of buying  
steel containers, I've  
learned that **Vulcan**  
is the best source for  
everything from 1  
thru 55 gallons!

**That lesson needn't take you more than a few minutes to learn and here's why: Vulcan makes a complete selection of quality steel containers under one roof; everything from 1 thru 55 gallons, with all the closures, styles and linings you could want. In decorator colors, too! This means that you can order all of your container needs most economically with a combination truck, car or trainload shipment from Vulcan. ★ More important to know is that Vulcan quality, convenience and service costs no more than ordinary steel containers. That's the lesson for the day! Why not let your experience prove it soon!**

**IN CALIFORNIA: VULCAN CONTAINERS PACIFIC INC., SAN LEANDRO  
IN CANADA: VULCAN CONTAINERS LIMITED, TORONTO, VANCOUVER, B.C.**

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to your calling card and mail today for  
 free literature, or  a meeting  
with your local 'Vulcanconsultant' a  
technical man who can help you  
with your container problems.



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SCS-110

# aerosol patents

No. 2,953,498. **Alcoholic Polyvinylimidazole Aerosol Hair Preparation**, patented by Jesse Werner, Holliswood, N. Y., assignor to General Aniline & Film Corp., New York. A tack-free hair grooming composition is covered comprising polyvinyl imidazole having a molecular weight of from 20,000 to 400,000 in solution of a low boiling aliphatic anhydrous alcohol and at least one aerosol propellant selected from the class consisting of chloro-fluorohydrocarbons of the methane and ethane series.

No. 2,952,547. **Self-Propelling Food Mixture**, patented by Frederick B. Hill, Jr., New Castle, Del., assignor to E. I. du Pont de Nemours & Co., Wilmington, Del. The invention consists of a self-propelling food mixture confined under pressure in an aerosol-dispensing container, said mixture consisting essentially of an aerosol-dispensable, foamy, edible food formulation and a propellant for said food formulation which propellant is a mixture of from about 47 to about 15 mole per cent of perfluorocyclobutane and from about 53 to about 85 per cent of a member of the group consisting of nitrous oxide, carbon dioxide and mixtures of nitrous oxide and carbon dioxide.

No. 2,953,013. **Method of Measuring the Particle Concentration of Aerosols**, patented by Bengt Allan Bergstedt, Solna, Sweden, assignor to A. P. Atomenergi, Lovholmsvagen, Sweden. The patent teaches a method of measuring with great accuracy the particle concentration of an aerosol by passing the same between an ion emitting electrode and a collection electrode of an electrostatic precipitator while maintaining between said electrodes an electric potential of a corona producing voltage to cause precipitation of particles from the aerosol onto said collection electrode, the aerosol rate of flow being within the region of relatively high flow rates where an essential increase in flow rate renders only an immaterial increase in precipitation rate, the efficiency of the precipitator being less than 25 per cent, and measuring the precipitate obtained on said collection electrode during the passage of the aerosol.

## Hardware Show

(From Page 82)

and it is claimed by the firm that the product dries in 10 minutes after application.

Other aerosol products shown for the first time included "Tile Smile," a new product designed to clean shower and bathroom wall-tile. Introduced by Upson Chemical Corp., Lockport,

N. Y., "Tile-Smile" is also available in an unbreakable plastic container.

Vim Laboratories, Washington, D. C. introduced a new Christmas snow. Packaged in a 16 ounce can, the product is available in three colors under the name "Instant Flakes of Snow."

Osborne - Kemper - Thomas, Inc., Cincinnati, Ohio introduced a packaged holiday decoration kit. The adhesive for this kit is packaged in a 6 ounce aerosol container, and included in the kit are two packages of white berries and a package of red berries. The aerosol adhesive is claimed to be non-toxic, non-flammable and odorless. The kit as such can be used for decorating Christmas trees, wreaths, mirrors, windows, etc. as well as Easter eggs, gift wrappings, etc. Since the aerosol adhesive can be purchased separately, additional adhesive is available for those who either need more of the product or do not require the entire kit.

Osrow Products Co., Glen Cove, N. Y. introduced two new aerosol products, "Spray Slip", a

Christmas decoration kit of Osborne-Kemper-Thomas, Inc., Cincinnati, features six ounce can of aerosol adhesive, plus three packs of berries.

silicone-based product for freeing sticky doors, windows and drawers and "Spray Release", a penetrating oil for loosening rust on metal parts were both shown for the first time. A special introductory offer kit was shown — under the heading of the "Handyman's Kit," the two aerosol products were offered along with a screwdriver with a magnetized blade.

Among the non-aerosol products exhibited at the show were several new chemical specialties. Lewis Research Laboratories, Inc., Englewood, N. J. introduced a new cleaning product for removing coffee, tea and food stains from "Melmac" dishes. The new product, called "Stain-Aid," is in a powder form and is available in either a 5 ounce or 10 ounce can.

A new waterless hand cleaner dispenser was introduced by Quickee Products, Inc., Yonkers, N. Y. The dispensing unit holds a special two-pound can of "Quickee Cream Hand Cleaner."

Speco, Inc., Cleveland, Ohio introduced a new product to their line of ice melting chemicals. The new product is designated as "Ice Rem Super."

Jordan Industries, Miami, Florida introduced a new aerosol can handle and Magic Iron Cement Company, Cleveland introduced a new epoxy glue.



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ARE  
PLEASANT  
IN  
AEROSOLS**



**Ucon** brand propellants put action in products

*Why don't you discover Ucon Propellant service, too?*



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**SOAP and CHEMICAL SPECIALTIES**

# new trade marks

THE following trade marks were published in recent issues of the *Official Gazette* of the U. S. Patent Office in compliance with section 12 (a) of the Trade Mark Act of 1946. Notice of opposition under section 13 may be filed within 30 days of publication in the Gazette. See rules 20.1 to 20.5. As provided by section 31 of the Act, a fee of \$25 must accompany each notice of opposition.

**Chip-Cal**—This for low-lime calcium arsenate herbicide and insecticide. Filed Mar. 21, 1960 by Chipman Chemical Co., Bound Brook, N. J. Claims use since June 21, 1957.

**Cow-Tent**—This for insect repellents and insecticides. Filed Mar. 23, 1960 by McLaughlin Gormley King Co., Minneapolis, Minn. Claims use since Aug. 7, 1958.

**Chrome-12**—This for film forming composition applied to the surface of metal articles to increase resistance to corrosion. Filed May 10, 1957 by Ecko Products Co., Chicago, assignee of Autoyre Co., Chicago. Claims use since Apr. 1, 1957.

**Moli-Spray**—This for lubricants—namely, molybdenum disulfide combined with an aerosol for spraying surfaces. Filed Mar. 27, 1959 by Bemol, Inc., Boston. Claims use since Feb. 20, 1959.

**Flex-O-Lite**—This for sealers and finishes for floors. Filed Feb. 18, 1960 by Marshall L. Magee, doing business as Magee Chemical Co., Bensenville, Ill. Claims use since Apr. 24, 1958.

**Onyx**—This for detergents and detergents used in the manufacture of other products. Filed Aug. 7, 1958 by Onyx Oil & Chemical Co., Jersey City, N. J. Claims use since Jan. 2, 1958.

**Peptizoid**—This for metal cleaning compound. Filed Nov. 3, 1958 by Cahill Chemical Corp., Providence. Claims use since Aug. 2, 1954.

**Super Florgard**—This for liquid floor finish for wood, linoleum, asphalt tile, rubber tile, vinyl plastic, terrazzo and cement floors. Filed Mar. 25, 1960 by Acme Chemical Co., Milwaukee. Claims use since Apr. 11, 1947.

**Diatom**—This for liquid waxing and polishing preparation. Filed Aug. 31, 1959 by Milam Supply Co., Inc., doing business as Hi-Chemical Co., Houston. Claims use since Jan. 15, 1959.

**Jersey**—This for rust and corrosion inhibitor. Filed Apr. 20, 1959 by Penola Oil Co., New York. Claims use since Oct. 3, 1958.

**Repelzit**—This for water repellent and stain resistant preparation used on clothing. Filed Jan. 11, 1960 by Acqua Lina Manufacturing Co., New York. Claims use since 1950.

**Cote**—This for powder form textile softeners for use in laundry processes, especially adapted for use in commercial laundries, institutional laundries and launderettes. Filed June 20, 1958 by Wyandotte Chemicals Corp., Wyandotte, Mich. Claims use since April 15, 1958.

**Pe-Kay**—This for anti-freeze for internal combustion engine cooling systems and hydraulic fluids. Filed Oct. 19, 1959 by Paul K. Horstman Co., Fort Wayne, Ind. Claims use since Sept. 1959.

**Sona**—This for liquid and powdered combined cleaning and polishing materials. Filed Oct. 20, 1959 by Franz Hoffman & Sohne, Neuburg, Germany. Owns German registration dated March 18, 1920.

**Lustre Line**—This for polisher and cleaner composition for metal, wood and other surfaces. Filed March 28, 1960 by Nobilit Bros. & Co., Philadelphia. Claims use since on or about Sept. 10, 1959.

**Metasol**—This for compositions for inhibition, destruction and control of microorganisms, including bacteria and fungi. Filed Sept. 14, 1959 by Metalsalts Corp., Hawthorne, N. J. Claims use since Nov. 1, 1958.

**Duet**—This for air sanitizer and deodorizer. Filed Sept. 28, 1959 by Madison Chemical Corp., Maywood, Ill. Claims use since Jan. 1958.

**Melt-O-Matic**—This for ice and snow melting composition. Filed Sept. 28, 1959 by Madison Chemical Corp., Maywood, Ill. Claims use since July 1958.

**Blue Angel**—This for preparation in tablet form for use as germicide, algaecide, bactericide, and fungicide. Filed Oct. 5, 1959 by Howard F. Hawley, doing business as H. F. Hawley Chemical Co., Stockton, Calif. Claims use since Aug. 5, 1959.

**Garry's Melt**—This for liquid preparation applied in spray form for melting ice and snow on windshields, door locks, and other weather exposed parts. Filed Dec. 7, 1959 by Garry Laboratories, Inc., Buffalo, N. Y. Claims use since on or about Nov. 9, 1959.

**Scor**—This for insecticide spray solution. Filed March 31, 1960 by Lien Chemical Co., Franklin Park, Ill. Claims use since April 13, 1959.

**Pesti-Fog**—This for liquid insecticides. Filed Oct. 28, 1959 by General Implement Corp., Clearwater, Fla. Claims use since July 16, 1959.

**Knit Lure**—This for detergent powder for washing knitware. Filed March 28, 1960, by Earl Grissmer Co., Indianapolis. Claims use since April 18, 1956.

**Sabithane**—This for insecticides, fungicides and disinfectants. Filed Feb. 8, 1960 by Rohm & Haas Co., Philadelphia. Claims use since on or about Jan. 15, 1960.

**Kild**—This for sanitizer, deodorant, and germicide. Filed March 8, 1960 by Acme Chemical Co., Milwaukee. Claims use since March 1, 1960.

**Cadrym**—This for therapeutic shampoo for treatment of scalp disorders. Filed March 30, 1959 by Mead Johnson & Co., Evansville, Ind. Claims use since Oct. 9, 1958.

**Skil**—This for hair spray. Filed Aug. 13, 1959 by George H. Weyer, Inc., Kansas City, Mo. Claims use since Aug. 1954.

**Friendship Garden**—This for spray cologne and other toiletries. Filed March 16, 1960 by Shulton, Inc., Clifton, N. J. Claims use since Aug. 1, 1957.

**Beauty-queen**—This for shampoo and other toiletries. Filed March 31, 1960 by Furst-McNess Co., Freeport, Ill. Claims use since on or about Oct. 1, 1955.

**Newspaper**—This for glass cleaner. Filed June 2, 1958 by Earl Grissmer Co., Indianapolis. Claims use since Aug. 6, 1957.

**White Frost**—This for chemical preparations for clearing fabrics. Filed July 7, 1958 by Jay D. Silberman, doing business as White Frost Chemicals, Greenwich, Conn. Claims use since Jan. 1954.

**Rug Frost**—This for chemical preparations for cleaning fabrics. Filed July 7, 1958 by Jay D. Silberman, doing business as White Frost Chemicals, Greenwich, Conn. Claims use since May 1, 1957.

**Flush Master**—This for automotive cooling system cleanser. Filed March 28, 1960 by Rust Master Chemical Corp., Worcester, Mass. Claims use since Feb. 2, 1960.

**Degreas-Master**—This for degreasing solvent cleaner. Filed March 28, 1960 by Rust Master Chemical Corp., Worcester, Mass. Claims use since Aug. 28, 1958.

**Liquisan**—This for liquid paint and varnish remover. Filed April 4, 1960 by J. F. Kerns Chemical Corp., Chicago. Claims use since Feb. 1945.

**Smooth glo**—This for shoe polish. Filed Nov. 23, 1959 by Shoe Corp. of America, Columbus, O. Claims use since Aug. 29, 1959.

**Steri-Magic**—This for disinfectant-germicide. Filed Nov. 30, 1959 by Lan-O-Sheen, Inc., St. Paul, Minn. Claims use since Oct. 1, 1959.



# OUR ROOTS ARE DEEP, OUR AIM IS HIGH

**but Valves don't grow on trees**

Some fifteen years ago, the aerosol industry was born. Shortly after, the Precision Valve Corporation began. As the industry grew, Precision did too, in research, in discovery, in development.

Today, with over 500 employees and more than 60,000 square feet of manufacturing space devoted to over 10,000 different combinations of specifications for aerosol valves, Precision works with the industry to create and develop new aerosol designs to improve current procedures.

Now, on the threshold of further expansion, Precision rededicates itself to serving the aerosol industry and its customers. A major portion of Precision's new plant program will be directed toward research and development; its modern production facilities further improved; its friendly hand extended and dedicated to helping everyone.

Yes, Precision's roots are deep . . . its aim high!



**PRECISION VALVE CORPORATION • 700 NEPPERHAN AVENUE, YONKERS, N.Y.**

# What's New?

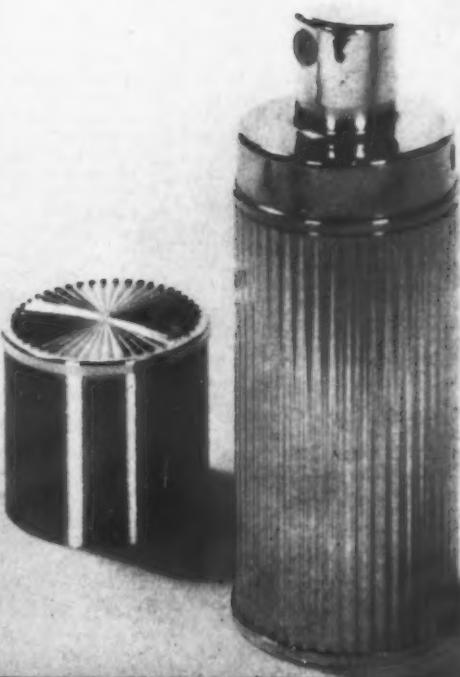


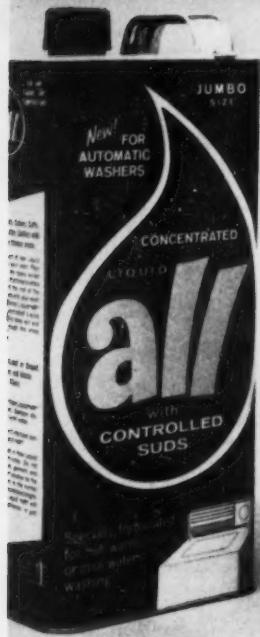
Yardley hand cream of Yardley of London, Inc., New York, is now available in a pressure package. Product is packaged in a pink and white enamelled Crown "Spra-tainer" fitted with Precision valve. Novel skirt cap is by Mack Molding Co., Wayne, N. J. The 6 oz. container is being offered at an introductory price of 95 cents, regular price \$1.25.



New "Golden Spray Mist Canister" for "Hypnotique" and "Primitif" fragrances was introduced recently as Christmas gift package by Max Factor, Inc., Hollywood, Calif. Reuseable outer container has an inner cartridge holding fragrance and can be replaced when perfume is exhausted. Dispenser and aerosol valve made by Risdon Manufacturing Co., Naugatuck, Conn. Replaceable inner coated glass bottle by Foster-Forbes Glass Co., Marion, Ind. Fillers are G. Barr & Co., Chicago and Aerosol Techniques, Inc., Bridgeport, Conn. "Golden Spray Mist Canister" retails for \$5.00, refills are priced at \$2.

Flint glass bottles have recently been adopted by Texize Chemicals, Inc., Greenville, S. C., for three of its household chemical specialties. "Laundry Fluff" rinse, pine scent all-purpose liquid cleaner and pine oil disinfectant, are packaged respectively, in 28, 15, and eight ounce bottles. The flared top bottles and two-color lithographed screw-off caps were designed and made by Hazel-Atlas Glass division of Continental Can Co., New York. Wrap-around foil labels, made by Forbes Lithograph and Reynolds Metals, circle a flush panel recessed in the bottles.





Lever Brothers Co., New York, is now marketing liquid "all" nationally. It is packaged in quart and  $\frac{3}{4}$  gallon cans to retail for approximately 79¢ and \$2.19, with the familiar "all" design on a dark blue container.

East Coast Soap Corp., Brooklyn, has made available to jobbers "E-Z Melt" ice and snow melting compound. Fortified with rust inhibitor, the product generates heat for periods of up to 24 hours, melting ice and snow. It melts at five degrees F. "E-Z Melt" is packed in 80 and 160 pound drums.

Procter & Gamble Co., Cincinnati, is test marketing a "King size" "Mr. Clean" in Providence, Little Rock, and Grand Rapids. The new bottle contains 44 oz.

Helene Curtis Industries, Chicago, recently introduced special "Enden" shampoo for dry hair. The emerald green, liquid shampoo, developed for people with dry, brittle or over bleached hair, is packaged in four and eight ounce sizes, to retail for 79¢ and \$1.50, respectively.

"Super foaming" bleach scouring cleanser, packed in 24 ounce cans, designed especially for the institutional trade, is being marketed by Time Chemical, Inc., Chicago. Cleanser is designed for use on porcelain and enamel sinks, bath tubs, tile surfaces, stoves, brass, chrome, and stainless steel.

Perfums Ciro, Inc., New York, has introduced a two ounce aerosol package, for holiday merchandising of "Danger."

"Reflexions" and "New Horizons" fragrances. The container, of polished gold-lacquered aluminum, has a metered valve and grooved spray dome actuator supplied by Risdon Manufacturing Co., Naugatuck, Conn. The uncoated glass bottle, holding the fragrance, is made by Foster-Forbes Glass Co., Marion, Ind., and is filled by Stalport Pressure Pak, Inc., Baltimore. The new aerosol package retails for \$5.

"Krylon Hot Rod Charcoal-Black Primer," a new primer that can be used as a regular automotive paint undercoater or as a one-coat finish is now being marketed by Krylon, Inc., Norristown, Pa. It sprays on evenly and dries in 15 minutes, to a hard smooth finish. It is lacquer resistant and can be top-coated with almost any paint finish. Packaged in a 16 oz. dispenser, and lists for \$1.79 per can.

"Trudee" odorless room deodorant, just introduced by Stanley Home Products, Inc., Westfield, Mass. Product comes in a Peerless Tube Co., Bloomfield, N. J. aerosol container five inches high, stated to provide approximately 600 sprays. Suggested retail price \$1.29. Stanley does its own filling.

**Stain-Aid**, made by Lewis Research Laboratories, Englewood, N. J., removes coffee, tea and food stains from coffee makers and plastic and china dinnerware, by soaking without scrubbing. Marketed in a five and ten ounce container, 59¢ and \$1., respectively.

Krylon Inc., Norristown, Pa., is marketing its glowing fluorescent spray paints in a new six ounce size, priced at \$1.19. Colors imprinted on the label and cap match the contents of the can. Krylon glowing fluorescent spray paints can be used on such white surfaces as paper, wood, cloth, glass, metal, some plastics and styrofoam.

A new aerosol creme hair dressing for men, part of its "Chairman" line, has been introduced by Stanley Home Products, Inc., Westfield, Mass. Using a

nitrogen "pusher" propellant in a Peerless Tube Co., Bloomfield, N. J. aerosol container, the hair dressing comes out as a creamy liquid, instead of combining with the material to create a foam. Suggested retail price, \$1.00.

DuBarry, Richard Hudnut Sales Corp., Morris Plains, N. J., has introduced "Seven Winds Mist Supreme" in a Bridgeport Metal Goods refillable metal case. A two ounce uncoated bottle by Foster Forbes Glass Co., Marion, Ind., is used with a refill bottle by Wheaton Plastics Co., N. Y. Filler is Fluid Chemical Co., Newark, N. J.; it uses a V.C.A. Inc., Bridgeport, Conn., B18F metered valve.

"Onox," a fungicide made by Onox, Inc., San Francisco, for use in communal shower rooms of schools, clubs and industries to stop athlete's foot, is now packaged in square one-gallon Plax Corp. polyethylene containers. They are said to be space saving, shatter-proof, and eliminate the hazard of breakage in shower rooms.

"Samae Instant Copper Cleaner" in paste form has been introduced recent-

ly by Copper Clad Products, Inc., Newark, N. J. Product cleans and polishes copper and stainless steel cookware, and may be used on brass and bronze trays, chafing dishes, fireplace implements, and decorative pieces. Cleaner is packaged in two sizes, 10 and 18 ounces, 89¢ and \$1.39, respectively.

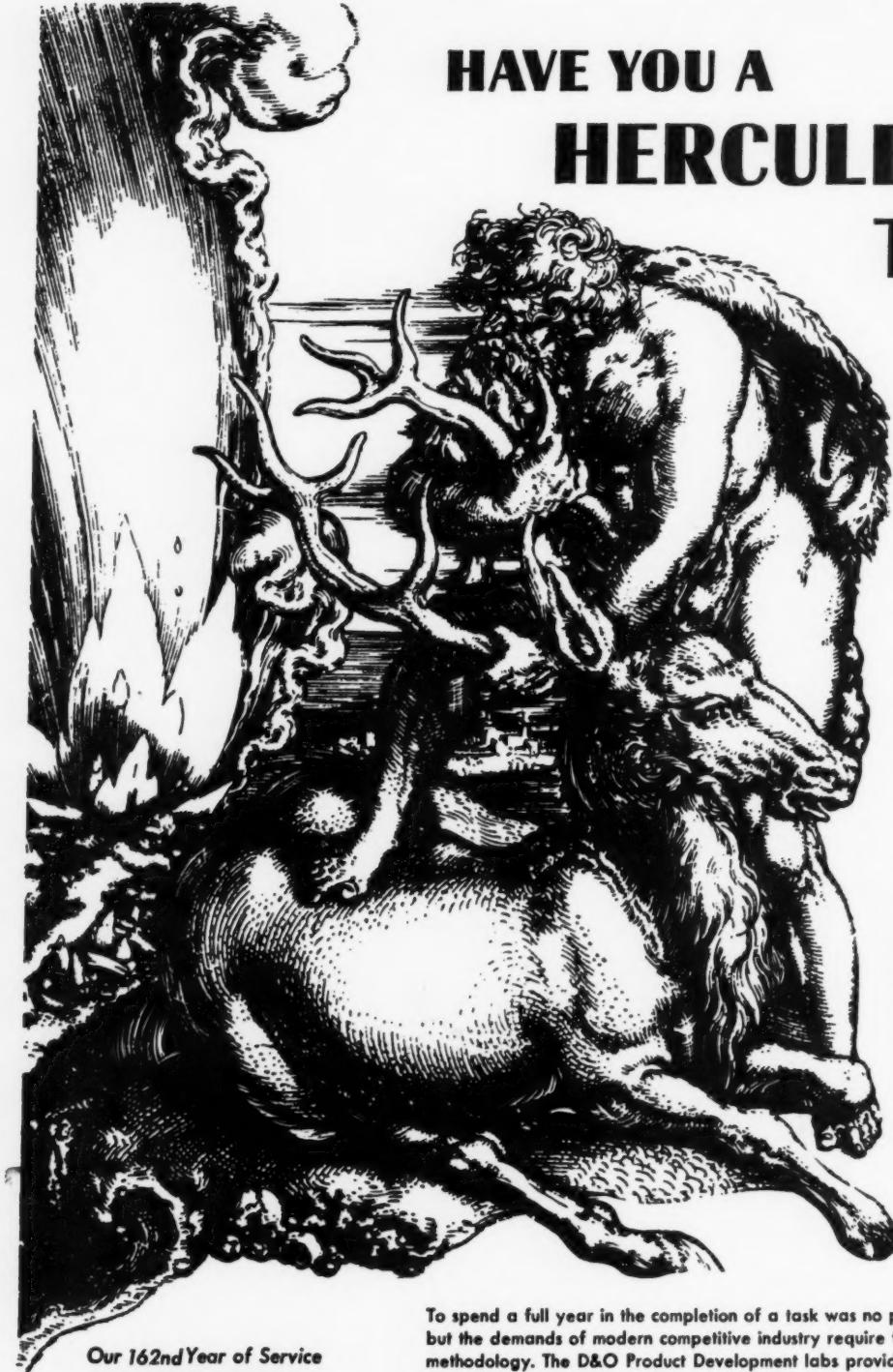
"Devastating" and "Side Glance," are two new metered aerosol perfumes introduced by Perfumes Anjou, New York. A  $\frac{3}{4}$  ounce tube by Peerless Tube Co., Bloomfield, N. J., has been equipped with a trigger top by V.C.A. Inc., Bridgeport, Conn.; which integrates an overcap and actuator and is affixed permanently to the package. V.C.A. also supplies the B18F metered valve and filler is Marcy Laboratories, Inc., Chicago.

"Fashionette Petite," a refillable purse-size hair spray, introduced by the Aerosol Corporation of the South, Arlington, Tenn. Special valves on the 14-ounce container of "Fashionette" and the purse-size "Petite," make it possible to transfer the spray. "Petite," is packed in a lavender and gold container, less than three inches tall.



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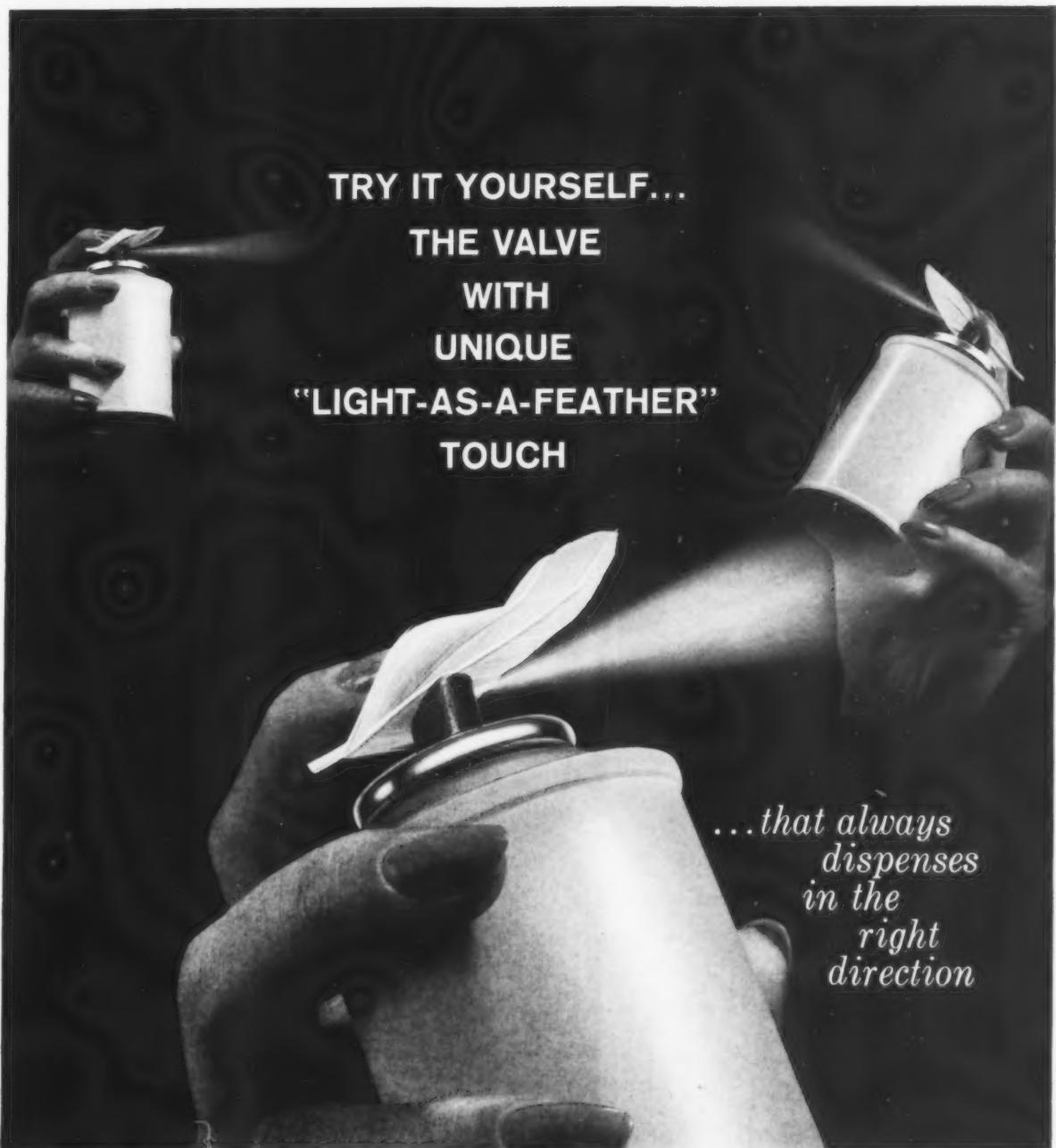
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# pressure packaging

## 1960 Aerosol Package Contest Largest Yet

JUDGING of the largest number of products ever entered in the annual aerosol package awards contest conducted by the Aerosol Division of the Chemical Specialties Manufacturers Assn. took place Nov. 2, at the Chemists' Club, New York.

Well over 275 entries were received for the ninth annual aerosol package competition, according to Joseph J. Tomlinson, General Chemical Division, Allied Chemical Corp., New York. Mr. Tomlinson is chairman of the Package Awards Committee.

Announcement of the winners and presentation of the awards will be made Dec. 5, at the 47th annual meeting of CSMA in Hollywood Beach, Fla.

Judges for the contest included Miss Carol Adams, National Family Opinion, Inc., New York consumer research organization; Miss Dorothy Diamond, editor of the "Woman's Viewpoint," a column published in *Printer's Ink* magazine, New York; Frank Gianninoto, of the New York package design firm bearing his name; Peter Hilton, president of Kastor, Hilton, Chesley, Clifford & Atherton, Inc., New York advertising agency; Kenneth L. Hirst, head buyer of cosmetics and toiletries, W. T. Grant Co., New York; James Moyer, head buyer of toiletries and cosmetics, Lord & Taylor department store, New York, and Cecile Hayward, home furnishings coordinator, *Living for Young Home-makers* magazine, New York.

There are 15 product classifications in this year's contest, including three new ones covering types of aerosols which have become major sales categories in recent years. These are Automotive, Veterinary and Pet Products, and Hor-

ticultural Products. In addition, a special category for foreign entries has been established in which an award will be given for the best foreign entry among all foreign packages competing in the various product categories.

Other contest categories include: Insecticides, Repellents and Moth Proofers; Room Deodorants; Paints, Enamels and other Protective Coatings; Other Household Products; Shave Products; Hair Preparations; Perfumes, Colognes and Toilet Waters; Other Personal Products; Food Products; Medicinal and Pharmaceutical Products; and Industrial Products.

### Pressure Pak Rep.

The appointment of Hoshall Co., Atlanta, to represent Pressure Pak, Inc., West Palm Beach, Fla., in the southeastern United States was announced recently. Pressure Pak markets aerosol filling equipment, including a short run, labo-

ratory model that sells for \$400. Hoshall Co. has been a manufacturer's agent in Atlanta for nearly 20 years.

— ★ —

### Flanner Named Supervisor

The appointment of Lloyd T. Flanner as technical service supervisor of "Genetron" aerosol propellants at the General Chemical Division of Allied Chemical Corp., New York, was recently announced by William B. Sherry, technical service manager.

With the division 12 years, Mr. Flanner was associated with its aerosol technical service laboratory in Edgewater, N. J., for the past three years. Earlier he served as chief chemist of the division's Baton Rouge, La., works, one of its major "Genetron" plants.

General Chemical's aerosol technical service laboratory carries out a development program to help provide aerosol fillers and marketers with new and improved "push-button" products, and also aids them in their individual product development and testing programs.

Glenn B. White, president, Glenn B. White & Associates, Inc., Redwood City and Los Angeles, Calif., displays Krylon's 1960 Award for outstanding sales achievement, presented to his organization by James W. Bampton, president, Krylon, Inc., Norristown, Pa. The award was made at the annual Krylon sales meeting held early last month at the Merchants and Manufacturers Club, Merchandise Mart, Chicago. (left to right) Richard C. Newbold, Krylon vice-president sales; Elmore E. Kayser, Krylon vice-president, advertising and promotion; James W. Bampton, president, Krylon, Inc.; Glenn B. White, president, Glenn B. White & Associates, Inc.; Phil Goode, Larry Quigley, Ted Moroney and Tom Belton, members of the Glenn B. White organization. In addition each member of the organization received a Cross pen and pencil set, engraved with his name and "1960 Krylon Sales Leader."



## Cook Joins Stalfort

Herbert C. Cook recently was named pharmaceutical research chemist by John C. Stalfort



Herbert C. Cook

& Sons Co., Baltimore, it was announced in October by Richard J. Kraus, technical director. Mr. Cook joins the staff of the aerosol laboratory at Stalfort's Pressure Pak division, 2012 Hammond's Ferry Road, Baltimore. Mr. Cook attended Purdue University, where he majored in pharmacy. Later he served with the U.S. Army, doing field laboratory work with the Chemical Corps at Edgewood (Md.) Arsenal. After several years in an executive capacity with a retail drug chain in Baltimore, he joined Stalfort.

The 92-year-old Stalfort company is one of the nation's leading contract packagers with two plants in Baltimore, one at 319 West Pratt Street, packaging chemical specialties, the other the Hammonds Ferry Road aerosol unit.

—★—

## ATI Looks Ahead

Aerosol Techniques, Inc., Bridgeport contract aerosol fillers, convinced that aerosol dispensers provide the easiest and simplest method yet devised for starching clothing, have earmarked the product as a major 1960-1961 effort.

Samuel Prussin, ATI vice-president in charge of new products and sales development, has

estimated that a substantial part of the home laundry starch market, better than \$65,000,000 annually, is headed to the aerosol package.

As in other cases where products have been adapted to aerosol application, pushbutton starches are expected to stimulate new markets, according to Mr. Prussin.

## Plasti-Kote To Expand

Plans for immediate construction of a new million dollar, 100,000 square foot aerosol paint plant were announced recently by Elias Shapiro, executive vice president, Plasti-Kote, Inc., Cleveland. The new plant will have a 20,000-can production capacity per year and will be one of the largest of its kind, according to Mr. Shapiro.

The plant is to be built on a ten-acre site in the Cleveland area, and its design provides for future expansion of an additional 100,000 square feet. Facilities will include modern aerosol paint production lines, extensive warehouse and dock areas, and the plant will incorporate all possible fire precautions and safety equipment.

Plans for construction of two new 25,000 square foot plants in Los Angeles and Toronto, Can., in early 1961, were revealed at the same time. Each plant will cost approximately a quarter of a million dollars and have a production capacity of 3,000,000 cans annually. Completion of all new plants is expected by mid-1961.

A training program for supervisory personnel is being inaugurated at the Cleveland plant to train men for the Los Angeles and Toronto locations, Mr. Shapiro said.

Plasti-Kote sales are up 40 per cent for 1960, and sales are estimated at nearly five million dollars, Mr. Shapiro reported. A 50 per cent increase in sales is predicted for 1961—a goal of 7½ million dollars. Plasti-Kote became a subsidiary of New England Industries this year.

## Du Pont Promotes Three

The E. I. du Pont de Nemours & Co., Wilmington, Del., recently announced the appoint-



James Gay Gordon, III

ment of James Gay Gordon III to the post of supervisor of aerosol programs, in its "Freon" products laboratory. In his new assignment, Mr. Gordon is responsible for developing special programs providing technical and other assistance to commercial users of "Freon" aerosol propellants.

Simultaneously with Mr. Gordon's appointment, Du Pont announced that Francis E. Cooper, a "Freon" salesman, has been named to succeed him as sales supervisor in the eastern district office in New York City and Alfred P. Dougherty, Jr., has been named salesman in the New York territory replacing Mr. Cooper.

Mr. Gordon was graduated from Princeton University in 1948, and following several years' sales experience in the chemical and food industries, he joined the Du Pont Freon Products Division in mid-1954 as a sales representative. In 1958 he was made sales supervisor of the eastern district.

Mr. Cooper started with Du Pont in 1939 as a project expeditor in the engineering department. He later became a salesman in the Freon Products Division in 1951.

Mr. Dougherty, a graduate of the University of Delaware, has been a sales correspondent since joining the Freon Products Division in 1956.

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### New Cap For Aerosols

A new body diameter overcap for 202 diameter extruded aerosol cans was introduced recently by the Walter Frank organization, package designers and engineers of Hillside, Ill.

The new overcap is designed for maximum strength, and to seat snugly regardless of valve mounting cup tolerance range. This is made possible by a new production technique providing maximum undercuts.

Made of high impact poly-

styrene, rigid and shock-resistant, the new cap is suitable for high production, automatic packaging.

The new proprietary overcap, designated No. 750, is available in all basic, and a number of other colors. The body diameter cap provides maximum package display and flat top for ease in display stacking.

### Kartridge Pak Rep. Moves

Frank Craig, west coast representative for the Kartridge Pak Co., Mt. Prospect, Ill., previously

located in the San Francisco area, recently moved to 19111 E. Swanee Lane, Covina, Calif. Kartridge Pak Co., which makes complete aerosol filling lines for both small and large volume users, is a wholly owned subsidiary of Oscar Mayer & Co., Madison, Wisc.

### Crown Issues Report

A report issued by Crown Cork & Seal Co., Philadelphia, for the quarter ended Sept. 30, 1960 lists the earnings per common share at \$6.66 as compared to \$2.22 in 1959. Sales in the third quarter rose to \$32,101,000 from \$30,883,000 in 1959.

For the first nine months of 1960, earnings per common share were \$1.91, as compared with \$1.45 for 1959.

### Herst Adds to Duties

Theodore R. Herst has been appointed aerosol sales manager of Foster-Forbes Glass Co., Marion, Ind., it was announced in mid-October by W. S. Coffman, sales manager. In his new post Mr. Herst continues as a New York sales representative for the glass container firm. For the past seven and one-half years he has been working out of the New York office.

According to Mr. Coffman, Mr. Herst has been largely responsible for Foster-Forbes' development of the uncoated glass aerosol bottle, and in the future he will be responsible for all aerosol designs and specifications.

Theodore R. Herst



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## Aerosol Paints Market Fastest Growing

**S**PRAY paints are the fastest growing segment of the entire pressure packaging field, according to the "1960 Survey of Consumers Knowledge, Use and Opinion of Aerosol Paints." Results of the survey conducted on behalf of the Freon Products Division of E. I. du Pont de Nemours & Co., Wilmington, Del., have just become available in the form of a 44-page illustrated booklet.

Sales of aerosol paints have increased from 23 million units in 1956 to about 60 million units in 1959. Of approximately 1,400 U.S. paint manufacturers, over 100 are marketing aerosol paints, according to the survey.

Only 13 per cent of all families surveyed had used paint from a pressure can within six months previous to the survey. Almost two thirds had never tried an aerosol paint and most of them had no reason for not trying them. Half of the families had painted with a brush or roller during the previous six months. Over half of those who had not painted recently said that it was needed. Crux of all this information is that "More selling effort is needed," the booklet points out.

The survey covers 16,955 families of which 2,216 had used an aerosol paint within the last six months. Of this group, referred to as "users," 579 families answered detailed questionnaires, as did 625 of the non-users. Users purchased 38 per cent of the units in hardware stores, 21 per cent in paint stores and 12 per cent in department stores. Large containers accounted for 64 per cent of the purchases. About 60 per cent bought one container at a time. 59 per cent of the users are men.

Age groups between 25 and 44 and higher income brackets account for the majority of users. Market penetration is below average in the south and above average in the west, below average in rural areas, slightly above average in other areas.

Most frequent target for spray paints is furniture, both metal and wooden, accounting for 31 per cent of all applications. Other applications and colors used are analyzed in detail.

Satisfaction with the job performed by aerosol paints was expressed by 82 per cent of the users. Among dislikes expressed, cost ranked highest. Other objections included "messy—paint sprays other objects, too thin—runs easily, defective nozzle."

Information on aerosol paints was obtained from retailers by 50 per cent of respondents, from other users by 47 per cent, from magazines by 21 per cent. Only eight per cent had learned about the product through television.

The booklet also presents a detailed analysis of the nonuser group, and of its reasons for not using or not having tried to use aerosol paints. Leading objection in this also is high price of the product. Pointing up the high potentials of the vast household market, the survey sees the market doubling itself in size by 1968.

### Old Empire Expands

Old Empire, Inc., 865 Mt. Prospect Ave., Newark, N.J., recently acquired an additional 30,000 square foot building adjoining its present location. Old Empire, private brand packager and manufacturer of aerosol perfumes, drugs, toiletries and cosmetics, will use the new building for expanded

**Show in front of newly acquired Old Empire building adjacent to firm's present plant in Newark, N.J., are, left to right: Hans W. Maucher, Harry Friedenberg, Irving Horowitz, John de Elorza (President), John Horn, and Ellis Reyner.**

manufacturing as well as additional warehousing facilities. With the new addition Old Empire now has a total of 140,000 square feet of plant floor space.

### Aerocide Dispensers Adds

A 7,000 square foot addition to its Plant #1 was announced recently by Aerocide Dispensers, Ltd., Toronto, Canada's largest contract aerosol loaders. Cost of the new plant addition, according to Carl D. Durant, president and founder, will be \$125,000. The new construction will house a new, greatly enlarged, air-conditioned research and development laboratory, plus increased blending capacity for Aerocide's liquid aerosol lines. The project is expected to be completed around Dec. 15. With the additional floor space, the total occupied by Aerocide Dispensers is increased to approximately 50,000 square feet.

Aerocide Dispensers has two plants at 13 Bethridge Road, Rexdale, Ont. Plant #1 was completed in 1954, and provides the firm with 25,000 square feet of floor space for administrative offices, which occupy one wing. In addition, plant #1 houses three cold fill lines, including one for glass bottles, as well as a warehouse area, storage tanks, machine shops, refrigerator equipment and research laboratories. This building also has truck loading platform and a rail siding. In addition, Aerocide's plant #2, which is equipped for both butane and nitrogen filling,

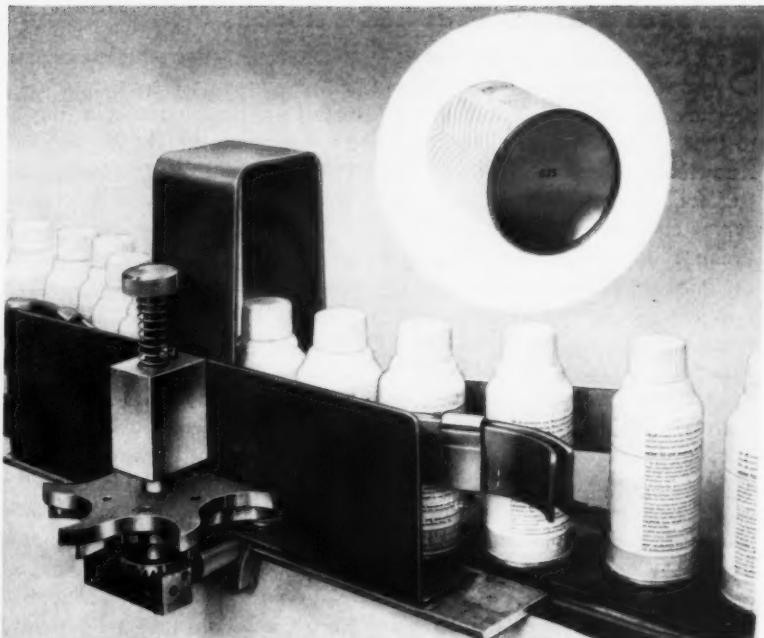


provides an additional 18,000 square feet of floor space. Plant #2 was built in 1958.

Aerocide Dispensers was founded in 1950 by Carl D. Durant on an investment of \$500. Key personnel of the company include Mr. Durant's brother, Jerry, who is in charge of purchasing and production; Jack Nicol, general sales manager; Theodore Hart, plant manager; Kenneth Mitchell, in charge of research and development, and Thomas Tedder, head of the quality control department.

### Aerosol Can Coder

A new low-cost, self-powered conveyor attachment for automatically marking codes, prices, etc. on the bottom of aerosol and other round containers, was introduced last month by Adolph Gottscho, Inc., Hillside, N. J. Identified as the "Sideline Markocoder Attachment," the coder is described by the maker as a simple, inexpensive and compact unit that is easy to install on any can conveyor. It is



Low cost, self-powered conveyor attachment for automatically marking codes, prices, etc. on bottom of aerosol containers announced by Adolph Gottscho, Inc.

driven by the product stream, and operates at normal line rates.

The "Sideline Markocoder" was originally developed by JCL

Engineering Co. of Los Angeles, from whom the Gottscho firm recently purchased the patent, manufacturing and selling rights.

#### AUTOMATIC AND LABORATORY

## AEROSOL PRODUCTION BOOSTERS

**AUTOMATIC CAN CLEANER**

**AUTOMATIC PRODUCT FILL**

**COLD PURGING UNIT**

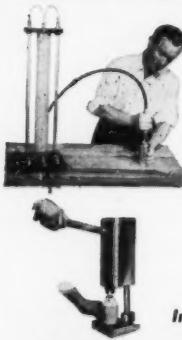
**AUTOMATIC BALL FEED**

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We manufacture automatic and semi-automatic units. Standard automatic production lines available; specials designed to suit your needs.



### AMCO PRESSURE BURETTE

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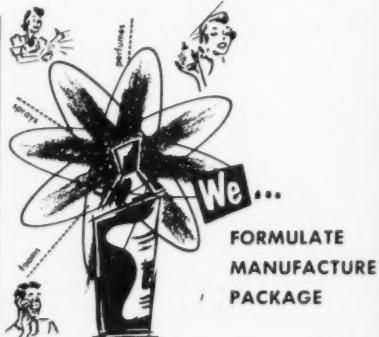
### AMCO HAND CRIMPER

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## aerosol packaging

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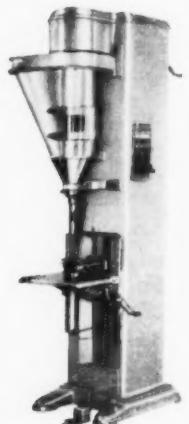


## *FMC Auger Fillers deliver flexibility required by Pennsalt product diversity*

Pennsalt Chemicals Corporation, in developing new products for new markets, required ever-increasing flexibility in its packaging machinery. Their cleaning compounds and swimming pool chemicals, for example, have different flow characteristics, densities and other properties. To obtain needed packaging

flexibility for these and other products, and to assure speed and accuracy, Pennsalt uses 14 automatic and semi-automatic FMC Auger Fillers. They package a broad line of chemicals in metal cans, glass jars and plastic containers in a variety of sizes ranging from 1 pound up to 10 pounds.

Successfully packaging a varied "product mix" is the rule not the exception for FMC Auger Fillers. For example the semi-automatic Model EG-1 shown here, is equipped with four different filling methods—cam volumetric, packing, gross weighing, and combined volumetric-vacuum—to handle an almost limitless variety of products and containers. Quick, simple changeover from one product and container to another make this unit ideal for short and medium runs in large and small plants alike. Many other models are available for automatic or semi-automatic operation, tight or loose fills, long or short runs to fill powders, granules and certain pastes. Production run accuracy has proved outstanding in filling cans, jars, boxes, bags, etc. from 1/2 oz. to 20 lbs. Speeds as high as 140 per minute.



*For the full story of the FMC line of Auger Fillers, write for Bulletin P-811.*

*Putting Ideas to Work*



**FOOD MACHINERY AND CHEMICAL CORPORATION**

**FMC Packaging Machinery Division**

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TWO THINGS MUST BE PARAMOUNT IN THE MERCHANTISER'S MIND . . .

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WHERE DO YOU START WITH GLASS OR PLASTIC PACKAGING?

WE BELIEVE WE MAY HAVE SEVERAL PERTINENT THOUGHTS FOR YOUR  
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ECONOMIC MACHINERY COMPANY • WORCESTER 3, MASS. / Division of Geo. J. Meyer Manufacturing Company

# PRODUCTION section

## Plastic Bottle Packaging

By I. M. Amenta,

Product Manager

Emhart Manufacturing Co.

Portland, Conn.

**S**UDDENLY, the plastic bottle is no longer a specialty. Now, production executives and packaging machinery suppliers are faced with a new challenge in package handling: how do you get a container as light (almost) as air, somewhat compressible, and shaped more for consumer convenience than for machinery, to accept mechanical regimentation?

How do you develop such machinery — almost overnight? Well, the answer, of course, is that you don't. The machinery available right now for handling plastic bottles is largely an adaptation of equipment designed for metal and glass containers. It is admittedly an interim form of mechanization designed to bridge the gap between the manual methods used for a specialty package and the techniques needed for a high-volume package.

As indicated, completely new problems were posed by the weightlessness, compressibility and non-round shapes of linear polyethylene containers. Put cans or glass bottles in a line and push them through guides and lanes and they hold to a direction, readily accepting the parting motions preliminary to load formation for case packing.

Try to do the same thing with featherlight containers and they will wobble, get out of line, try to topple, and even change dimension. Then, look at the shapes of the bottles. Glass and metal containers, those used for mass-con-

sument products, are round. They move predictably. Not so with plastic containers. Their attractive, hand-fitting shapes require the most sensitive handling techniques if you are to achieve desired movements.

Next is the fact that plastic bottles compress when squeezed against one another. (Though linear polyethylene is more rigid than earlier formulations, still it can be squeezed.) Thus the dimensions of a plastic bottle change in transit, sometimes enough to throw off equipment—such as a packer push plate, which is dimensioned and set to move a particular width of aligned containers.

These are the major conditions confronting those responsible for mechanizing plastic bottle handling. Troublesome, yes, but it can be confidently stated that the high speed lines handling metal cans and glass bottles will be matched by equally fast and smooth plastic bottle lines. A strong start has been made. Here is a rundown on the equipment being manufactured now.

### Unscrambling

This equipment is new and designed exclusively to orient empty plastic bottles and deliver them in a single line. It is usable

by both container manufacturer and his customer.

The unit consists of two sections—a "Vibrabowl" unscrambler and an "Up-Ender." Bottles in bulk are fed, manually or automatically, into a vibrating hopper which delivers a controlled amount of bottles into a vibrating unscrambler bowl. The bottles are shuffled onto a spiral track around the inside of the bowl. As bottles move upward along the track, a pair of photocells determines if they are travelling neck first or bottom first. Those travelling neck first are flipped over to a bottom-first position. Those in bottom-first position are allowed to pass through.

Further up the track, another set of photocells checks to make sure all bottles are properly oriented. Any containers not travelling bottom first are returned to the bowl. Additional devices prevent double rows, standing bottles or other incorrect situations.

At the top of the bowl, bottles discharge onto the "Up-Ender" chute. They slide down the chute, hit a bounce-eliminator, and are gripped by parallel belts that deliver the bottles in an upright position onto an off-bearing conveyor. Bottle spacing can be controlled within practical limits by varying

**Mechanized packaging of plastic containers requires novel equipment and techniques to allow for light weight and compressibility**



The Shell chemicals listed below are sources for many important commercial products.

## Familiar landscape?

The inquiring chemist explores many interesting product "landscapes" in his work. This photomicrograph shows crystals of *tertiary butyl alcohol* at 65°F. TBA, a Shell chemical with intriguing features, finds its way into a variety of industries.

Shell manufactures more than thirty industrial chemicals—among them *allyl alcohol* and *allyl chloride*. Because of the di-functional nature of these two products, they are used as intermediates in the synthesis of many

important chemicals. Derivatives of allyl alcohol are widely used in drugs and cosmetics. Allyl chloride is an intermediate in the synthesis of resins for thermosetting plastics, varnishes, and adhesives.

Why not become better acquainted with Shell Chemical's products and technical services? Write or phone your nearest district office for our general catalog and information about your specific interests.

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Glycerine  
Hexylene Glycol  
Hydrogen Peroxide  
*Ional® CP Antioxidant*  
Isopropyl Alcohol  
Methyl Isobutyl Carbinol  
Methyl Isobutyl Ketone  
*Tertiary Butyl Alcohol*

**SHELL CHEMICAL COMPANY**  
INDUSTRIAL CHEMICALS DIVISION

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the speed of the "Up-Ender" and the conveyor.

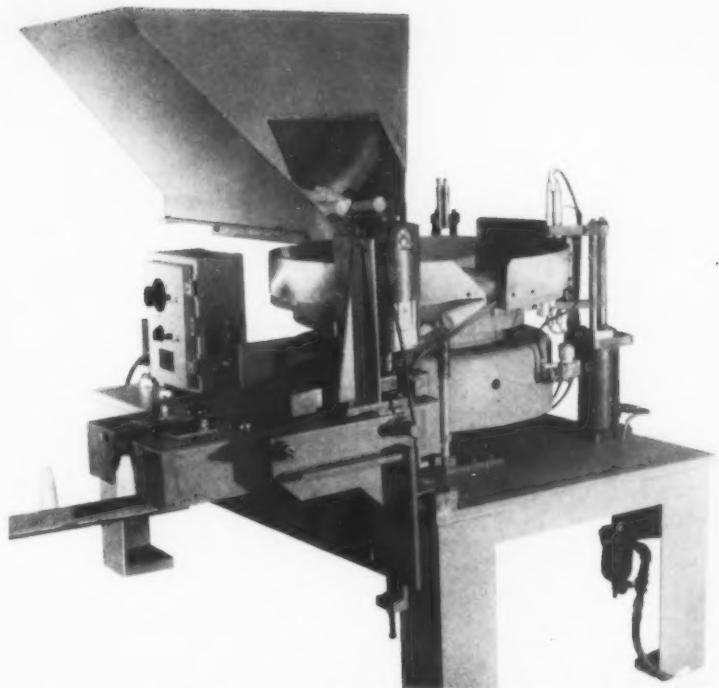
Bottle sizes handled range from containers with a one inch minimum width to a maximum of  $2\frac{1}{2}$  inches and with a height minimum of  $2\frac{1}{4}$  inches to a maximum of 6 inches. Operating at rates of up to 200 containers a minute, depending on size, shape, weight and stability, the machine can be used for a wide variety of bottle designs where the height-to-width ratio is at least  $1\frac{1}{2}:1$ . It is a compact unit, requiring a floor area six feet by five feet.

### Case Loading

The key problem in case loading of filled containers is developing methods of dividing non-round bottles into case-size loads. Arranging the containers in lanes is the first step. Individual gates for each lane have been tried and are operating, but other methods promise improved performance.

A modified packer combines a Braren-type divider (somewhat like a start-wheel in design) with a gate divider. Containers are delivered to the packer intake where they are divided into balanced lanes first by the Braren divider and then the gate divider. Divided bottles are conveyed to the loading area and are moved by line pressure into loading position on riding stripes. A pusher plate nudges the bottles in a transverse direction

**Transfer labeling of plastic bottles by "Therimage" process of Dennison Manufacturing Co., Framingham, Mass.**



Hopper delivers bottles to vibrating bowl of Embart Manufacturing's CK-380 unscrambler. Correctly oriented bottles travel from spiral track in bowl to chute of SK-385 up-end. After hitting bounce eliminator bottles leave in upright position.

over openings in the platform grid where they are gravity-guided by fingers into the corrugated case.

This unit operates at speeds of up to 210 to 220 containers per minute. It can be equipped with an automatic case feed for delivering cases at right angles to container flow (left or right) or in same direction as container flow.

Just as empty plastic containers pose problems because of their extremely light weight, filled bottles present difficulties because of their weight. On conveyors the weight of loaded plastic bottles develops line pressure. Unlike glass bottles they do not have the rigidity to combat this pressure. Invariably they "give" a little.

The significance of this resilience becomes clear when you consider what happens to a line of bottles just before case loading. If each container "gives" a little, the accumulated change in dimension is sizeable. The liquid within the bottles has to go somewhere, so a reverse error in the form of a substantially enlarged total dimension develops across the direction of

pressure. It could exceed in extent the limits of the corrugated case into which the group is to be packed.

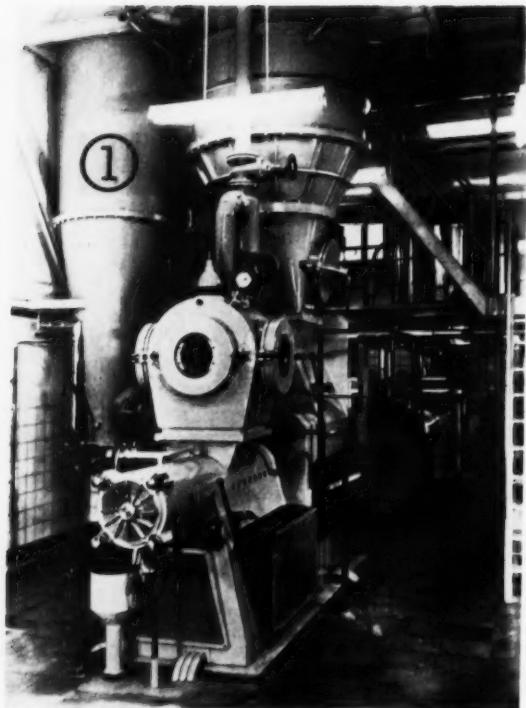
As a result, new types of packers will be designed to eliminate line pressure at the moment of packing.

A word about conveyors is apropos at this point: white or pastel colored containers tend to be-

**After labeling, bottles pass through oven for 3 minute bake to improve gloss and label adhesion.**



# G. MAZZONI, S.P.A.



VACUUM COOLER & DRIER

## CONTINUOUS VACUUM PLANTS

For cooling, drying and extruding all kinds of soaps up to 84% T.F.A. Capacities range from 100 to 10,000 Kgs. per hour.

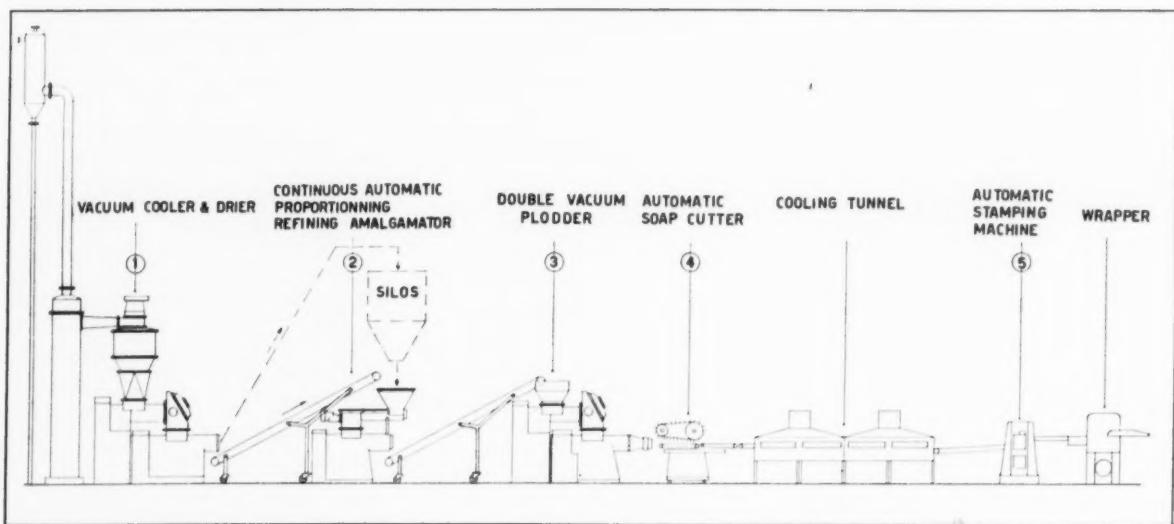
The "MAZZONI" continuous soap plants are outstanding because:

**They are economical:** Their requirements for steam, water and power are extremely low! Only one operator is required! No scrap soap is produced!

**They perform better:** 100% "Beta Phase" is guaranteed and gives extra mildness and extra foam even without coconut oil . . . no twisting or distortion!

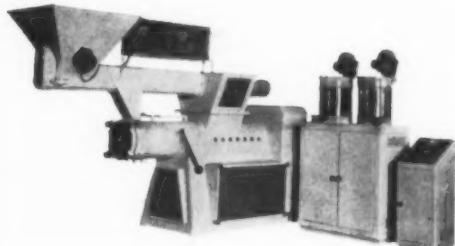
**They are extremely flexible:** The same plant also can manufacture pure or built household soaps, flake and powder dried base, etc. from 35 to 84% T.F.A. and more.

## **NEW! SPECIALLY DESIGNED LINES FOR SYNTHETIC TOILET BAR!!**



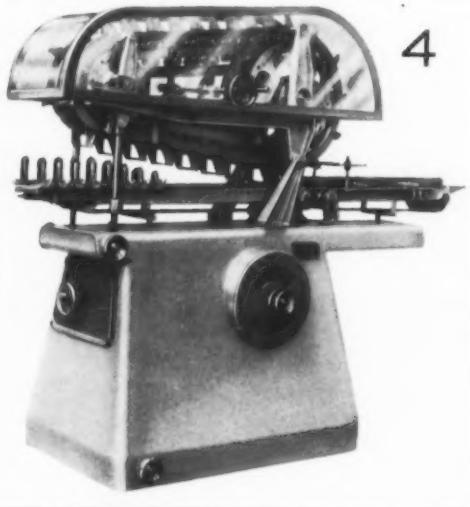
Layout of our continuous toilet soap line. Fully continuous or batch processing possible using chips silos. Our line automatically produces fully refined, first class toilet soap with no roll mills. The individual machines that are employed in the above sketch appear on this and the facing page. A complete line or individual units are available with production capacities of 250 to 1500 Kgs. per hour

# BUSTO ARSIZIO-ITALY



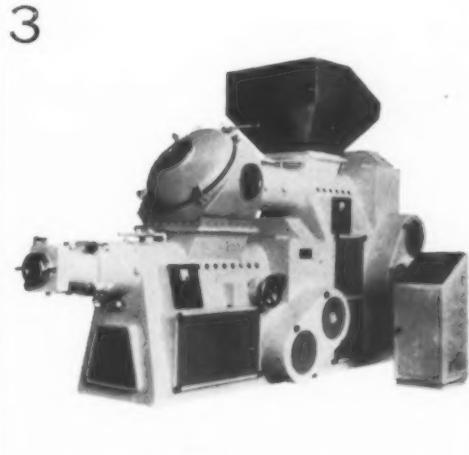
**CONTINUOUS AUTOMATIC PROPORTIONING  
REFINING AMALGAMATOR**

Units shown on this page are  
available individually. They



**AUTOMATIC SOAP CUTTER "TV"**

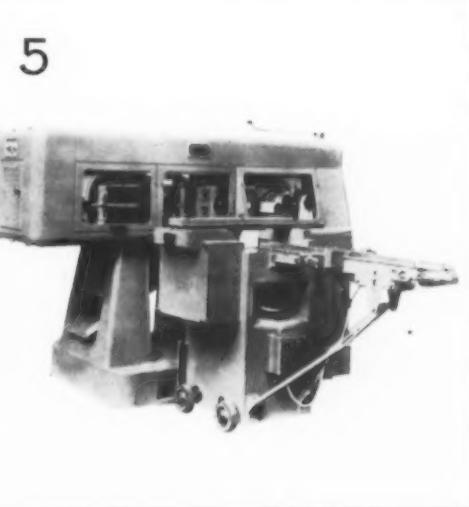
Adjustable cutting length  
by means of handwheel



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Refiner and Extruder

appear as numbered in produc-  
tion line diagram on facing page.

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**AUTOMATIC SOAP STAMPING MACHINE**

Type "St-S" stamping speed up to 125 per minute.  
Type "St-D" stamping speed up to 240 per minute.  
Type "St-O" for capacity molds. Stamping speed  
from 100 to 200 per minute.

Your inquiry is welcomed! We send, without obligation, data sheets and other literature on this equipment.  
Let our staff solve your manufacturing problems! We want you to get the most from your raw materials!

(From Page 145)

come dirty on ordinary steel conveyors, particularly if a bottle is held motionless on a moving chain. The most practical solution, so far, to this difficulty seems to be nylon-tipped conveyor chains which must be kept clean and dry.

### Labelling

Plastic bottles have been labelled largely by silk-screen printing, embossing, and by heat transfer methods. The economies and speeds possible with wrap-around paper labels have been receiving attention, however.

Presently, the vertical roll-through type of Standard-Knapp "Spinaway" labeller is proving applicable in some cases. It can be used—and is proving highly satisfactory in a Canadian plant—for bottles that are round or cylindrical and with sufficient rigidity to actuate the feed trip fingers.

Much remains to be done, however, in this area to solve the physical difficulties of applying a paper label to a yielding surface neatly and lastingly.

### Inspection Equipment

The single machine for bottle inspection was built for container manufacturers. It is conceivable that container users may want to employ it, too. This unit accepts plastic bottles from previous operations through a pneumatic tube conveyor and arranges them in a single, uniformly-spaced line at a convenient level for inspection and hand packing.

### Case Sealing

Container manufacturers shipping empties in re-shipper cases to plants of customers have a problem in sealing these cases. One side of the case (top or bottom) can be tightly glued, but the springiness of the unglued flaps on the opposite side being stronger than the weight of the case causes difficulties in palletizing. As a result it is necessary to "tack" glue flaps that are to be opened to remove the empties. "Tack" gluing

is a delicate operation. Case gluers using the new Standard-Knapp "Glu-Line," a forced feed system of gluing, apply adhesive in precise amounts to perform this function with a high degree of efficiency.

Cases containing filled bottles may be stored under different conditions as they go through the distribution route to the consumer. As a result, it is possible that dirt and dust may seep in through the flaps. The use of tape to guard against the infiltration of dirt is being studied. A top flap taping device for existing gluers is available. With this unit cases can be taped or glued or both. Another Standard-Knapp innovation is a machine for taping both top and bottom flaps of cases.

When more experience with

### New Automatic Feeder

An automatic feeder capable of handling all shapes and sizes of glass, plastic and metal containers at speeds up to 250 per minute, has been developed by MRM Co., Brooklyn. The feeder automatically carries and places uncartoned containers onto the conveyor at the start of the packaging line, requiring only one operator. The unit handles as few as 40 containers per minute or as many as 250.

Designed to operate in conjunction with any existing produc-

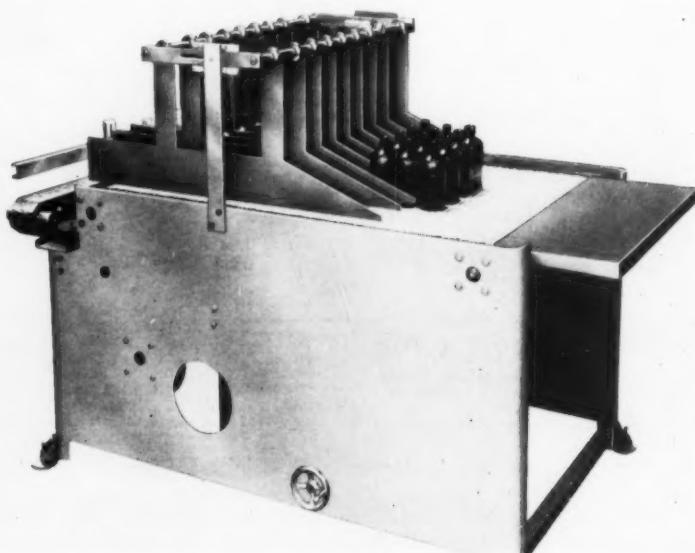
the plastic bottle is obtained, it is likely a simple, less complex machines for single-purpose operations will be devised. The reason: the need for higher speeds and better operating efficiencies available when change-overs are eliminated.

In this phase of the plastic bottle's growth, the emphasis is primarily on production. Estimated immediate needs are 400 million containers. Estimated capacity is 320 million.

Despite this, however, time is being taken to establish more rigid specifications for container quality. Very likely, there will be a consolidation in sizes. Shape remains wide open for speculation. Merchandising considerations and consumer convenience will govern decisions here. The one sure thing about packaging is change.

tion line, the new feeder has its own right angle discharge conveyor which integrates with the intake conveyor for the next machine on the line. The operator dumps containers onto a flat stationary plate and pushes them onto a belt that carries them through adjustable chutes in synchronized rows to the discharge portion of the conveyor.

The unit comes with an air cleaning device designed to remove lint and other foreign matter from the container.



# soap plant observer

By Willis J. Beach

Technical Service Department,  
Sugar Beet Products Co.

**R**ECENT trends in liquid metering and controlling equipment, are the subject of this month's column. Our discussion is based on a brief review presented last month of principles underlying measurement and control of fluid flow.

At the recent Instrument Society of America show in New York City, Fischer and Porter Co., Warminster, Pa., exhibited several innovations in the metering field. Perhaps the most intriguing of these is the new F. and P. magnetic flowmeter, now in use to measure "blow out" water requirements for stabilizing the Polaris-firing submarines after a missile is fired.

The new meter is based on Faraday's law of electromagnetic induction. The writer recalls suggesting this principle to the analytical balance makers at an I.S.A. show in Buffalo some years ago. It is interesting to observe its use now in both meters and balances.

A conductor of electricity moving at right angles through a magnetic field produces voltage in a plane perpendicular to the field and to the direction of movement. The voltage produced is in direct linear proportion to the speed of the conductor passing through the field. In the F. and P. magnetic flowmeter, the flowing fluid to be metered is the moving conductor.

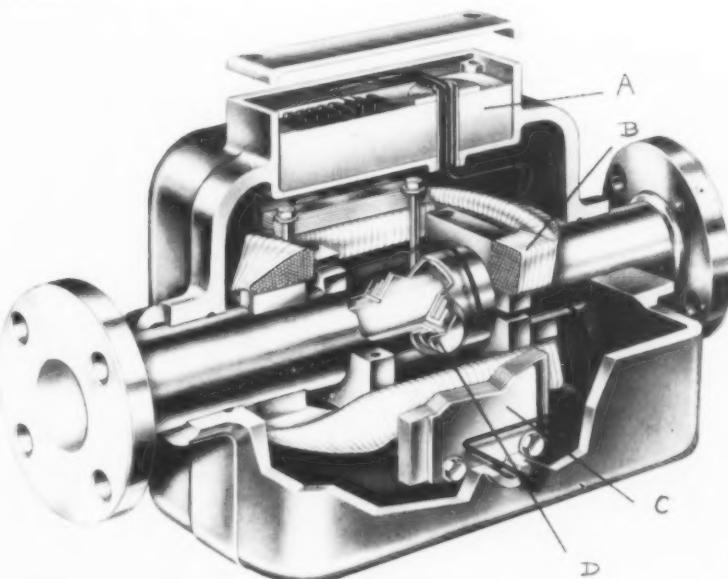
The device works like a simple A.C. generator with the flowing fluid as the armature and a pair of electrodes as brushes. The field is externally generated—uniform, and magnetically parallel. Since, with a given pipe size, the volumetric flow rate is dependent solely on flow velocity, the induced voltage is also directly propor-



tional to volumetric flow rate. So, only area and velocity determine the amount of flow. Viscosity or density variations have no effect on flow measurement by this means.

The system consists of a primary sensing element (Fig. 1) and a secondary transmitting and indi-

Fig. 1. Cutaway view of primary sensing element in magnetic flowmeter by Fischer & Porter Co., Warminster, Pa. A is calibration components, B, coil, C, iron, and D, electrode.

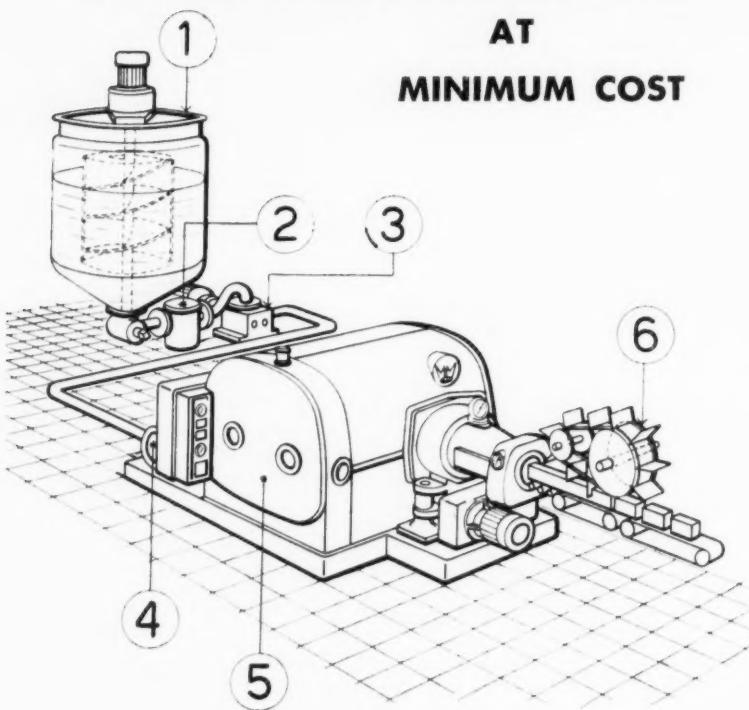


cating array. In the primary element, the flow tube is a non-magnetic and non-conductive pipe, such as a fiberglass or stainless steel tubing insulated with "Teflon," "Neoprene," or vitreous enamel. Electrodes are of stainless steel, "Hastelloy" or other non-corrosive conductive metal. The two induction coils are saddle-shaped and insulated with silicone-coated glass fiber. Around the coils and pipes are layers of soft iron to shape the field uniformly perpendicular to the axis of flow.

Part of the line voltage entering the magnetic flowmeter is used to generate by induction the flow signal; the remainder passes through a calibration component and emerges as a balancing signal source. The flow signal is fed to a differential amplifier unit containing a pair of balancing transformers. It is received on one side of one of them and compared with a slidewire voltage connected to the other side of the same transformer. If both voltages are the

# The New SAIX COOLING PLODDER

FOR CONTINUOUS PRODUCTION  
AT  
MINIMUM COST



The savings in floor space, labor and production time effected by the SAIX COOLING PLODDER are really impressive. The drawing illustrates the mechanical simplicity of this latest equipment for continuous soap cooling.

(1) The hot liquid soap is drawn from the storage tank through filters (2), (3) and (4), into cooling plodder (5). Here it passes into an annular chamber between a cylinder rotating within a hollow fixed cylinder, both of which are water-cooled. The cooled soap is then compressed by rotating pistons in the collecting chamber. The semi-solid plastic soap then passes to the milling unit and thence to the compression cone, from which it is finally extruded as a continuous bar. It is cut into desired sizes by the continuous automatic cutting machine (6).

Pilot plant available for test at your factory

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**J. M. LEHMANN COMPANY, Inc.**

550 NEW YORK AVENUE, LYNDHURST, N. J.

same, the system is in balance and indicating the correct flow rate. If the values differ, the "error" signal is amplified to drive a servomotor. The servomotor repositions the slidewire arm of the potentiometer to equalize the signal and slidewire voltages. These devices are relatively trouble-free electro- and servo-mechanisms commonly found in our laboratory measurement instruments of today.

In this system, the balancing signal derived directly from the current to the main primary coil windings emerges as a reference voltage across the slidewire for correcting fluctuations or changes in line voltage, frequency, temperature, or resistance that might affect the magnetic flux density and, in turn, the signal voltage. This feature helps to insure the accuracy of the system. The corrected signal is used to drive a pen on a chart.

Other features include continuous range adjustment for the reference voltage so as to offer low reference-to-signal voltage ratios to insure accuracy and flexibility over the range. A voltmeter is provided for phasing in the amplifier and servomotor for removing noise and checking the gain. Any section of the flow range of one to 30 feet per second can be expanded to full chart value by a simple turn of a screw and without loss in sensitivity. Accuracy is claimed to be  $\pm$  one per cent of chart and is unaffected by changes in liquid density, viscosity (true or apparent), conductivity, temperature, supply power or velocity profile.

A new, through-flow, extensionless, "in-the-line," indicating and transmitting rotameter was recently introduced by Fischer and Porter. Known as the "Magnarotor," the device measures flow by a conventional variable area meter and float, and a pneumatic transmitter. A magnet is encased in the float. In the transmitter is a follower rod designed to rotate 45 degrees as the float performs five inches of vertical travel. The follower rod angle serves to vary the air flow through a flapper-

nozzle assembly by means of an attached vane. Because of an output pressure inversion and feedback arrangement, only an actual change in fluid flow can move the vane. The transmitter output indicator has a vertical scale, four inches long, graduated in both flow units and output pressure. A pointer, attached to the magnetic follower, indicates flow rate independently of the transmitter or a supply on a 2½ inch horizontal scale. This type of meter lends itself to glass or metal tube design with steamjacket or high pressure features.

The liquid flows vertically upward through this meter which has no recessed area—an important advantage when metering hard-to-handle fluids. Pneumatic output signal is said to be linear with flow and accurate to  $\pm$  one per cent. With a 10 to one range, the meter is available in capacities of one to 100 gpm water equivalent or four to 400 scfm of gas at 14.7 psia and 70° F.

One other new item in the F. and P. line is a compact little meter for low flow applications that can be surface or flush mounted on panel assemblies. It appeals to those interested in metering liquids or vapors for gas chromatography. The meter, known as the "Minirator," (Fig.

2) comes in several sizes from 0.72 to 380 cc/min of water, or 52 to 11000 cfm air at 70° F., and atmospheric pressure. Capacities: (flow range) 12 and  $\frac{1}{2}$  to one. A useful feature of this little meter is the snap-in type of tube which permits a quick change of range without need for tools. This meter can be piped with the F. and P. differential pressure regulator that will automatically control flow rate at a set value against a varying pressure.

Next month we hope to bring you information on the differential pressure meters of Bailey Meter Co. and their means for pressure-temperature compensation; the Alarm Rotameters of Schutte and Koerting; and the Bellows Flow Transmitter of Minneapolis Honeywell Regulator Co.

— ★ —

#### Penn. Refining Bulletin

White oils, petrolatums and ointment bases are detailed in a new technical bulletin just issued by Pennsylvania Refining Co., Butler, Pa. Reflecting recent changes in the U. S. Pharmacopoeia XVI and National Formulary XI, the bulletin, No. 607, presents specifications and other data on 15 grades of U.S.P., N.F., and technical "Penn-Drake" white oils; on 14 grades of U.S.P., N.F., and industrial "Penn-Drake" petrolatums.

#### Allied Surfactants Data

Qualities, characteristics, and applications of "Nacconol" surface active agents are described in a new 18-page booklet just published by National Aniline Division of Allied Chemical Corp., 40 Rector Street, New York 6. Entitled *National Surfactants*, the illustrated publication tabulates the individual members of the "Nacconol" series of anionics, shows chemical composition, physical and chemical characteristics and main uses.

Having claimed outstanding detergency and other use characteristics expected of a good anionic surfactant the booklet states: "Films of 'Nacconol' surfactants have bacteriostatic, fungistatic, and even insect repellent properties when applied from either water solutions or oil emulsions." While these properties are not strong enough to replace commercial antisepsics, they are a great asset in many industrial and home uses in preventing damage to materials from bacteria, fungi, moths, and other insects, according to the brochure.

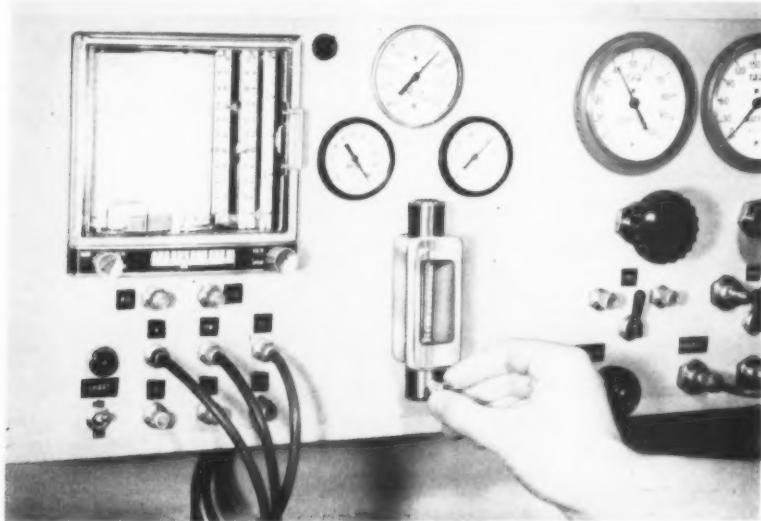
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#### Synthetic Fluids Data

Properties and uses of "Ucon" polyalkylene fluids and lubricants are described in a 52-page brochure just published by Union Carbide Chemicals Co., 30 East 42nd Street, New York 17. Automotive hydraulic brake fluids and lubricants, as well as antifoaming agents and demulsifiers are among numerous specialty uses of these compounds. They are suggested as lubricants in shave creams, bath oils and other toilet preparations. Industrial applications include ink, dye, textile, rubber processing, metal working, and other fields.

The booklet includes extensive information in tabular form and curves on physical properties, toxicity, analytical methods, storage and handling instructions and other pertinent data. Literature references are appended. Copies are available.

Fig. 2. "Minirator" by Fischer & Porter Co., Warminster, Pa., is shown on panel.



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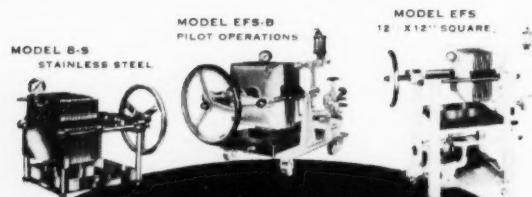


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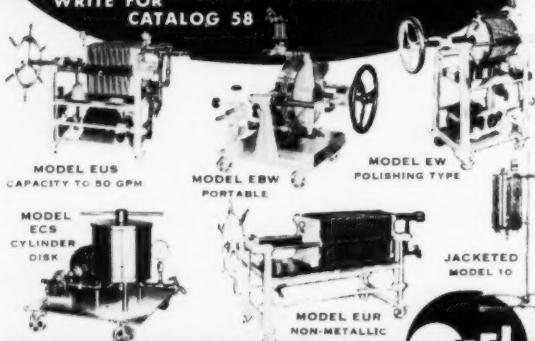
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Statement required by the Act of August 24, 1912, as amended by the acts of March 3, 1933, July 2, 1946 and June 11, 1960 (74 Stat. 208) showing the ownership, management, and circulation of SOAP and CHEMICAL SPECIALTIES, published monthly, at Baltimore, Maryland for October 1, 1960.

1. The names and addresses of the publisher, editor, and business managers are:

Publisher, MacNair-Dorland Company, Inc., 254 W. 31 St., New York 1, N. Y.; Editor, Frank J. Reilly, 254 W. 31 St., New York N. Y.; Business manager, Ira P. MacNair, 254 W. 31 St., New York 1, N. Y.

2. The owner is: (If owned by a corporation, its name and address must be stated and also immediately thereafter the names and addresses of stockholders owning or holding 1 percent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a partnership or other unincorporated firm, its name and address, as well as that of each individual member, must be given.)

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3. The known bondholders, mortgagees, and other security holders owning or holding 1 percent or more of total amount of bonds, mortgages, or other securities are: none.

4. Paragraphs 2 and 3 include, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting; also the statements in the two paragraphs show the affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner.

5. The average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the 12 months preceding the date shown above was: (This information is required by the act of June 11, 1960 to be included in all statements regardless of frequency of issue.) 6,040

Signed—IRA P. MAC NAIR, Business Manager  
Sworn to and subscribed before me this 26th day of September, 1960  
(Seal)  
WARREN R. LASCHI..  
My commission expires March 30, 1961

SOAP and CHEMICAL SPECIALTIES

# new patents

Listed below are brief abstracts of recently issued patents. Complete copies may be obtained from the publisher of this magazine:—Mac-Nair-Dorland Co., 254 W. 31st Street, New York 1, N. Y. Remit 50¢ for each copy. For orders received from outside of the United States send \$1.00 per copy.

**No. 2,951,811. Germicidally Active Soap Containing Silver Ion Exchange Resin**, patented by Garson A. Lutz, Columbus, and Robert E. Sharpe, Worthington, O., assignors by mesne assignments to Permachem Corp., West Palm Beach, Fla. The patent deals with a germicidally active soap composition consisting essentially of a water-soluble, alkali metal higher fatty acid soap and a germicidal amount of a sulfonic acid cation exchange resin in silver form, said resin being characterized as a sulfonated copolymer product of styrene and a minor amount of divinyl benzene and as containing nuclear sulfonic acid groups as the sole cation-active group.

**No. 2,945,782. Disinfectant Compositions**, patented by Ernst Schraufstatter, Wuppertal-Elberfeld, Ernst Gottsacker, Wuppertal-Barmen, and Hermann Wolz, Leverkusen-Bayerwerk, assignors to Farbenfabriken Bayer A.G., Leverkusen, Germany. Described is an aqueous composition which comprises water, a disinfecting amount of dichlorobenzyl alcohol, an alcohol solvent for said dichlorobenzyl alcohol, and an anion-surfactant selected from the group consisting of an alkyl sulfate, an alkyl sulfonate, an aralkyl sulfonate and an alkyl aryl sulfonate.

**No. 2,943,014. Process for Preparing Sanitizing Compositions**, patented by Alfred C. Loonam, New York. Claims cover the method for preparing bactericidal solutions suitable for sanitizing food-handling equipment and the like that comprises, reacting crude iodine and yellow elemental phosphorus in substantially stoichiometric proportions to effect reduction of the iodine to hydriodic acid and oxidation of the phosphorus to phosphoric acid, said reaction being effected by the controlled addition of the phosphorus to an aqueous reaction medium containing said iodine at a rate such that the temperature of the reaction does not exceed about 55° C., dissolving

additional iodine within the resulting solution to provide a desired proportion of titratable free iodine therein, thereafter adding sodium phosphate to said reaction mixture in a substantially stoichiometric quantity for reaction with the hydriodic acid to yield additional phosphoric acid and sodium iodide, and recovering a final solution containing titratable free iodine, sodium iodide and partially neutralized phosphoric acid in an amount sufficient to buffer the solution and to inhibit corrosion of metals by the iodine when said solution is employed for sanitizing purposes.

**No. 2,945,918. Process for Drying Soap**, patented by Giuseppe Mazzoni, Busto Arsizio, Milan, Italy. A process of drying soap is revealed, comprising the steps of heating an aqueous-soap mass to a predetermined elevated temperature above the temperature at which said aqueous soap mass is substantially fluid; spraying a continuous stream of the thus heated fluid aqueous-soap mass against a collecting surface a sufficient distance through a partial vacuum to evaporate a sufficient portion of the water therefrom to dry the same to a fatty acid content in the range of laundry and toilet soaps and be cooled to a sufficiently low temperature during passage through said partial vacuum to be solidified upon reaching said collecting surface; maintaining said collecting surface at a temperature substantially equal to said lower temperature at which said soap solidifies on said collecting surface; and continuously removing the dried solidified soap from said collecting surface so as to continuously obtain a homogeneously dried, solid soap of uniform fatty acid content.

**No. 2,946,725. Dentifrice Compositions**, patented by Paul E. Norris, Springfield Township, and Harry C. Schweitzer, Sycamore Township, both in Hamilton County, O., assignors to Procter & Gamble Co., Cincinnati. This patent claims a dentifrice containing a stannous compound, said stannous compound being difficultly soluble but capable of dissolving to supply at least 10 but not more than 1000 parts per million of stannous ions when in association with water, and being present in said dentifrice in an amount sufficient to provide said stannous compound in undissolved and undisassociated form, said dentifrice having a pH of from 3.5 to 6.0.

**No. 2,947,701. Spray Dried Detergent Composition**, patented by Edgar E. Ruff, Bergenfield, N. J., assignor to Lever Brothers Co., New York. Described is a spray dried detergent composition comprising from about 5% to about 15% of (1) a compound having the empirical formula

$\text{HO}-(\text{C}_2\text{H}_5\text{O})_n(\text{C}_2\text{H}_5\text{O})_b(\text{C}_2\text{H}_5\text{O})_n\text{H}$  prepared by condensing ethylene oxide with a hydrophobic base formed by

the condensation of propylene oxide with propylene glycol where  $n$  is an integer selected from the group consisting of 26 to 30 and  $b$  plus  $c$  is an integer such that the molecule contains from 40% to 50% ethylene oxide, and (2) a polypropylene alkyl phenol averaging tetradecyl in the alkyl radical condensed with ethylene oxide to an average of 9 ethylene oxide groups; from about 20% to about 50% of pentasodium tripolyphosphate; from about 10% to about 20% of sodium carbonate; from about 5% to about 15% of sodium silicate; from about 0.2% to about 2.0% by weight of a water-soluble alkali metal salt of a fatty acid having an acyl group of from about 8 to about 22 carbon atoms; an amount up to about 10% water; and the balance essentially sodium sulfate, the above amounts being expressed as percentages by weight on a dry basis with the exception of water.

**No. 2,947,702. Liquid Detergent Compositions**, patented by Ronald Coskie, Whitley Bay, Northumberland, England, assignor to Procter & Gamble Co., Ivorydale, O. Covered by this patent is a clear liquid detergent composition which remains clear over the temperature range 40° F. to 80° F. and consisting essentially of, by weight, from 10% to 25% sodium dodecylbenzene sulphonate, from 1% to 5% fatty acid monoethanolamide in which the fatty acid moiety contains from 10 to 14 carbon atoms, from 2% to 10% potassium pyrophosphate, from 10% to 12% urea, from 5% to 10% ethyl alcohol, and a proportion of an organic acid selected from the class consisting of citric acid in a proportion of 1.5% to 4%, tartaric acid in a proportion of 1.5% to 3% and salicylic acid in a proportion of 2% to 4%, and from 34% to 70.5% water, the pH being adjusted to 5 to 7.

**No. 2,948,684. Disinfectant and Deodorant Soap Composition**, patented by Frederik August Johan Thiele, Vlaardingen, Netherlands, assignor to Lever Brothers Co., New York. The invention consists of a tablet comprising a water-soluble soap and from about 1 to about 5% of a synergistic mixture of one part of tetramethylthiuram disulfide and from one to three parts of 3,3'-5,5'-6,6'-hexachloro-2,2'-dihydroxydiphenylmethane.

**No. 2,949,374. Polishing Composition**, patented by Edward R. Kendall, Chicago, assignor to Simoniz Co. Disclosed is a polishing composition consisting essentially of: about 10-30% of finely divided abrasive; about 5-16% of a wax; about 2-12% of a polydialkylsiloxane; about 40-70% of a hydrocarbon solvent; and about 1-10% of an oleophilic thickener dispersible in said solvent, all said amounts being by weight of said composition.



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up to date

1960

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# products and processes

## Two New "Texapons"

Two new members have been added to the "Texapon" series of surface active agents made by Dehydag, Germany, and sold in the United States by Fallek Products Co., 165 Broadway, New York 6. "Texapon KM 11" special, is a mixture of detergent substances based on myristyl alcohol ether sulfate. "Texapon KM 14 S" special, is the sodium salt of a lauryl-myristyl alcohol ether sulfate.

Both materials are liquid shampoo ingredients, claimed to be high foaming and of great mildness. They are suitable bases for medicated shampoos, according to the manufacturer.

## Purceline for Hair Sprays

Purceline and purceline oil preen-gland esters are suggested for use in personal products in the supplement to a recent issue of *Dragoco Reports*, external house organ of Dragoco Inc., 250 West Broadway, New York 13. Applications for purceline include soaps and detergents, where it is said to exert a regreasing effect on skin and hair and to mitigate any irritation by detergent ingredients.

Purceline oil is suitable for incorporation in hair sprays where its hydrophobic effect is useful. The publication suggests its use as a fatty substance for many types of aerosols where acid and cold resistance are important.

## New Detergent Additive

A new liquid hydrocarbon additive for soaps and detergents has just been introduced by Phillips Scientific Laboratories, 25 Manor Drive, Newark 6, N.J. The novel material is said to improve the hand of all types of fabrics, to prevent greying—particularly of man-made fibers—to be antistatic and to prevent dermal sensitiza-

tion by fabrics and detergents.

The compound *per se* is not water soluble. In textile finishing it is applied in aqueous detergent or soap solutions, in which fabrics remain immersed for a half hour. In addition to the above benefits its presence is said to reduce the odor of fabrics.

Suggested for use in consumer products for laundering nylon hosiery, the additive is claimed to lengthen the life of the stockings. Used on garments made of man-made fabrics, it minimizes greying, according to Dr. W. Phillips.

Patents have been applied for, covering the compound and its uses. Franchise licenses will be made available to a limited number of soap and detergent formulators and textile mills, Dr. Phillips announced.

## Airco Water Soluble Resins

A new series of water soluble polyvinyl alcohol resins is being introduced by Air Reduction Chemical Co., 150 East 42nd Street, New York 17, under the trade name "Vinol." The series provides a wide range of properties such as water solubility, water resistance, adhesion to porous and nonporous

## Low Sudsing Detergent

Laundring compounds for home and commercial use may be prepared by formulating "Renex" 20 nonionic synthetic detergent of Atlas Powder Co. with mild alkalies. "Renex" 20 is a low sudsing concentrate consisting of polyoxy-

surfaces, grease and solvents resistance, etc., Airco states.

"Vinol" resins may be used as nonionic emulsifiers and thickeners and in water soluble films to which they are claimed to impart grease and solvent resistance and gas impermeability. A wide range of other applications is suggested.

## New Synthetic Fluids

Commercial availability of a new series of 21 different synthetic fluids and lubricants was announced recently by Dow Chemical Co., Midland, Mich. Tradename "Ambiflo" the new product line is suggested for use in automotive brake fluids, textile lubricants, metal working formulations and a number of other products. Improved stability and temperature/viscosity relationship, higher flash point and lower pour point are claimed for these fluids. Improvements are said to be due to a novel process involving polymerization of propylene oxide or of propylene oxide and ethylene oxide with a new type initiator.

Literature and samples of the "Ambiflo" line may be obtained from Dow's technical service and development department.

ethylene esters of fatty and resin acids.

The following formulations are said to be suitable for laundering cottons, linens, and rayons. They should be used at a concentration of one third of an ounce per gallon or 0.25 per cent.

I	II	III	IV
%	%	%	%
"Renex" 20	15.0	15.00	15.0
Sodium CMC (low viscosity)	4.5	4.50	3.0
Water	10.0	10.00	10.0
Tetrasodium pyrophosphate or sodium tripolyphosphate	15.0	30.45	25.0
Sodium metasilicate	15.0	10.00	10.0
Soda ash	40.5	0.05	40.0
Optical bleach		0.05	45.0

# SANDROL

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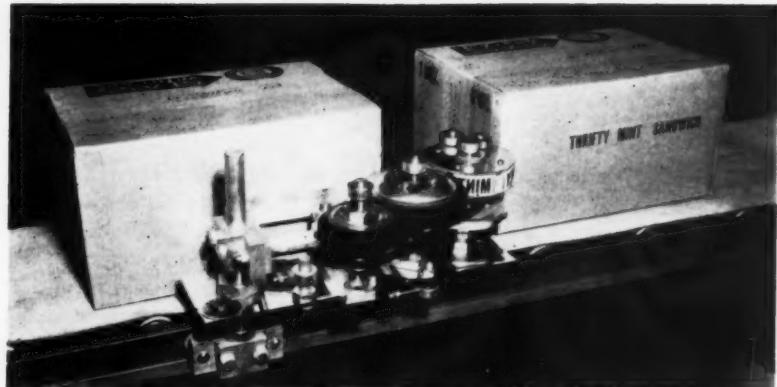
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New "Kiwi" code dater of Kiwi Coders Corp., Chicago, features ink reservoir system. One internal inking lasts for from two to four weeks, or 25,000 to 150,000 impressions, depending upon the size of the type and the number of characters, according to the maker. A polyethylene squeeze bottle is used to refill ink reservoir. "Kiwi" sponge inkers last one to three years and can be repadded, maker claims.

### MCA Booklet

The Manufacturing Chemists' Association, Inc., Washington, D. C., recently announced publication of the third in its "Safety Guide" series entitled "Flammable Liquids: Storage and Handling of Drum Lots and Smaller Quantities."

The guide lists recommendations for both inside and outside drum storage, methods of dispensing from drums, drum filling from storage tanks, containers for use of flammable liquids, and other safety suggestions.

Copies of the booklet, designated SG-3, are available at 20 cents each from the Manufacturing Chemists' Association, 1825 Connecticut Avenue, Washington 9, D. C.

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### New Versatile Filler

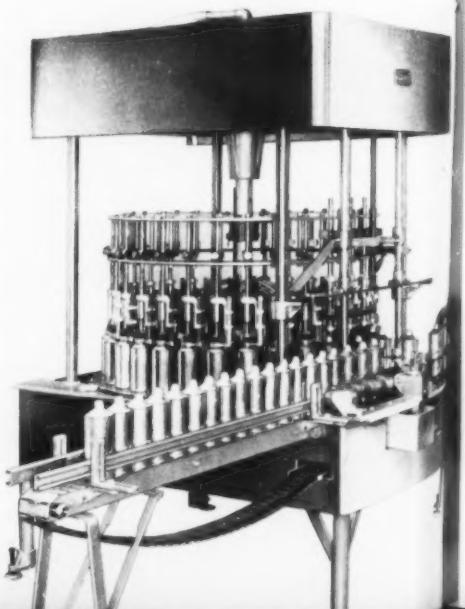
A new 30-spout fully automatic rotary liquid filling machine has just been introduced by MRM Co., 191 Berry Street, Brooklyn, N. Y. Versatility, high speed, and overhead drive are the main advantages claimed for this unit.

Designed to handle metal, glass and plastic containers, the new machine is said to be readily convertible from straight vacuum filling to gravity or gravity pressure filling. Capacity ranges from 300 fractional ounce containers per minute to 75 gallons per minute.

Foaming liquids such as shampoos, detergents, and cleaning waxes, usually filled at low speeds may be handled at normal operating speeds by this machine, according to MRM. The equipment is said to be economical in space and to permit rapid changeover to different container sizes and products.

Designed to operate in conjunction with any automatic line, the filler has a spiral feed mechanism that times entry of containers moving at high speeds into placement stars. This feature in combination with overhead drive permits smooth handling of regular or odd-shaped containers, according to MRM.

New 30-spout, fully automatic rotary filling machine recently introduced by MRM Co., Brooklyn. Versatile, high speed unit features overhead drive.



# The Maya Line

*provides character and continuity  
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**Stable,** economical and versatile, the Mayas are invaluable in maintaining a given fragrance throughout a line of related products such as a cream, cologne, powder, rouge, soap, etc.

**The Mayas** include such favorites as our Maya Fougere 4650 and our Maya Millefleurs 4707, a variety of fine Parisian bouquets, and a full line of fresh floral odors.

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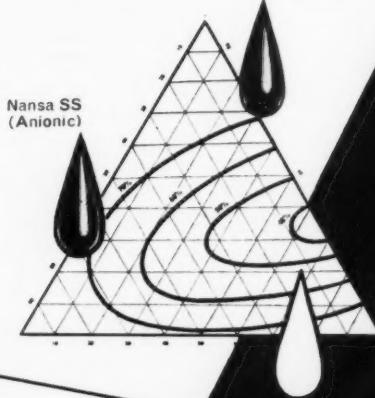
Eltesol SX is one of a versatile new range of Marchon hydrotropes with a marked effect on the cost and performance of liquid detergents. It increases solubility of anionic active matter and complex phosphates, depresses cloud-points and allows close adjustment of viscosity . . . in a wide variety of heavy and light duty formulations.

Fully compatible with liquid detergent anionics and non-ionics (e.g. Nansa SS and Empilan MAA), the Eltesols are also invaluable as crisping agents for heavy-duty powders. Please write for technical leaflet.

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(Non-ionic)



Marchon Products Limited, Whitehaven, England.

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# News...

PEOPLE • PRODUCTS • PLANTS

Economics Advances Wilson

\* \* \*

CSMR Cites Peter C. Reilly

\* \* \*

Drackett Record Earnings

\* \* \*

Colgate Changes Division

W. Howell Chase, vice-president of the soap products division of Procter & Gamble Co., Cincinnati, has been elected an executive vice-president of P&G. He has been a director of the firm since 1957, and has come up through the firm's advertising department.





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You can get every formula the government approves... from U.S.I. Package sizes range from 10,000-gallon tankcars to one-gallon cans. Delivered fast from U.S.I. denaturing plants, warehouses and distribution points throughout the country.

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# NEWS

## Wilson Top Economics V-P

Economics Laboratory, Inc., St. Paul, detergent manufacturer, announced recently J. L. Wilson



Dr. John L. Wilson

has been elected its senior vice president, and that four new vice presidencies had been created.

Mr. Wilson, with the company since 1931, was formerly vice president in charge of research.

Named to the new vice presidencies were W. M. Podas, formerly assistant director of research and development; D. W. Devins, treasurer; J. A. Lundquist, controller, and F. T. Lanners, Jr., director of dairy and industrial sales.

The appointments were made "to provide the foundation for future growth and expansion of the company," said E. B. Osborn, president.

## Drackett Co. 50-Year High

Drackett Co., Cincinnati, recently reported the highest sales and earnings in its 50 year history, for the fiscal year ended Sept. 30. Directors increased the quarterly dividend on the \$1 common stock from 30 to 40 cents a share.

Drackett and subsidiaries reported net earnings of \$2,560,000 or \$2.78 a share on the 920,868 shares outstanding on Sept. 30. This compares with \$2,334,000 or \$2.58

a share on the 869,478 shares outstanding at the close of the preceding fiscal year, according to president Roger Drackett.

Net sales of \$29,958,000 compare with \$28,339,000 for the year ended Sept. 30, 1959.

## Coastal Sales Manager

Coastal Chemical Corp., Garfield, N. J., producer of chemicals for rug and upholstery cleaning and general maintenance and cleaning supplies, announced recently the appointment of John Hedderig as sales manager of its New England division. Headquarters for the branch are located at 216 Curve St., Dedham, Mass.

## Reilly Cited by CSMA

Peter C. Reilly, president of Reilly Tar and Chemical Corp., Indianapolis, was recently nominated as an honorary active member of the Chemical Specialties Manufacturers Assn. The nomination, approved by the Board of Governors and based upon a resolution presented by the Policy Advisory Committee, is in recognition of his 10 years service as treasurer of CSMA. The membership will vote on the nomination during its 47th annual meeting at the Hollywood (Fla.) Beach Hotel.

Peter C. Reilly



## P & G Elects Executives

At a recent annual shareholders meeting of Procter & Gamble Co., Cincinnati, board chair-



William S. Vaughn

man Neil H. McElroy reported a favorable profit trend in the first quarter of the 1960-61 fiscal year, continuing the trend of the previous fiscal year.

Shareholders elected William S. Vaughn, president of Eastman Kodak Co., Rochester, to the P & G board of directors. Mr. Vaughn fills the vacancy created by the death, on March 13, of Reuben B. Robertson, Jr., a director since 1957.

W. Rowell Chase, vice president of the soap products division, was elected as an additional executive vice president. The other is Walter L. Lingle, Jr. who was elected in 1954.

Mr. Chase rose through advertising, becoming department manager in 1951, general advertising manager in 1954, vice president of advertising in 1955 and vice president of the soap products division and a director in 1957.

Commenting further, Mr. McElroy pointed to "extraordinary growth in the capital facilities of this country," and cited the contributions to this growth which

resulted from "the decisions of managers of industrial, commercial, and financial enterprises." He added, "nothing is more essential to the continued growth of America than the confidence of business managers in our future economic climate."

He was critical of those who espouse "increased Government control of business investment," saying: "The mechanism by which this nation has developed the best and most widely distributed standard of living in the world cannot be tampered with by political adventurers without putting the entire mechanism in serious jeopardy."

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### Weed Control Conference

For the third year, "New Herbicides from Industry" will be a special feature of the Northeastern Weed Control Conference to be held at the Hotel New Yorker, New York, Jan. 4-6.

Industry representatives will be invited to participate by presenting data on: 1. New herbicides that will be available for experimental testing in 1961. 2. New herbicides now commercially available or to be marketed for the coming season. 3. Improvements made on older herbicides or extended new uses for them.

This portion of the conference will begin at 8 P.M. on the 4th of January in the grand ballroom, with five minutes allotted to each product.

The "New Herbicide" program is headed by Charles L. Hovey, Eastern States Farmers' Exchange, West Springfield, Mass., past president of the conference.

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### Color Hearing Postponed

A hearing to discuss color additives slated by the Food and Drug Administration for Friday, October 21st, has been postponed until Thursday, November 17th. The meeting will be held at the North Health, Education and Welfare Building, 330 Independence Ave., S. W., Washington, D. C. at 10:00 A.M.

### Lehn & Fink Changes

At the annual sales meeting of the Lehn & Fink Division of Lehn & Fink Products Corp., New York, held at Pocono Manor, Mount Pocono, Pa. recently, several promotions and personnel appointments were announced by Edgar W. Nelson, general manager.

Roger M. Kirk, Jr. has been promoted to assistant general manager and is responsible for directing and coordinating of marketing activities of all products of the division, with the exception of "Young Look" cosmetics. He joined Lehn & Fink as sales manager of the division in Dec., 1959, and has directed field sales and participated in the division's marketing management team.

Samuel F. Melcher, Jr., has been advanced to the post of merchandise manager. He will be responsible for supervising and co-ordinating the brand planning, advertising and promotion activities of all divisional products. He came to Lehn & Fink last year as group brand manager, directing marketing for "Lysol" brand disinfectant, Hinds "Honey and Almond Cream" and new products developed within the division.

William S. Watchman, formerly assistant to Mr. Nelson, has been promoted to assistant brand manager. He is responsible for

brand planning activities on "Etiquet" and "Lysette," and will assist Mr. Melcher on "Lysol."

It was also announced by Mr. Nelson that John Jennings, formerly vice president in charge of marketing for Noreen, Inc., recently acquired by Lehn & Fink Products Corp., has been appointed marketing manager for Noreen products.

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### New Officers Elected

The Association of American Pesticide Control Officials, Inc., met at the Shoreham Hotel, Washington, D. C., in early October, and elected the following new officers for 1960-61: President, E. R. Winterle, Tallahassee, Fla.; Vice Pres., R. H. Guntert, Topeka, Kans.; Secretary, P. E. Irwin, Richmond, Va.; Treasurer, A. B. Heagy, College Park, Md.

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### New Yardley Supervisor

Philip C. Smith, president of Yardley of London, Inc., recently announced the appointment of Mary C. Mathews as department store supervisor for the west coast. Miss Mathews is responsible for the supervision of sales training, demonstrations and promotions. Prior to joining Yardley, Miss Mathews was senior assistant cosmetic buyer of the Broadway store, Los Angeles.

The general session of the annual sales meeting of the Lehn & Fink Division, Lehn & Fink Products Corp., New York, held recently at Pocono Manor, Mount Pocono, Pa., was addressed by: front row, l to r: Roger M. Kirk, Jr., newly appointed assistant general manager; Edgar W. Nelson, general manager; Walter N. Plaut, vice president of the corporation and Samuel F. Melcher, Jr., merchandise manager.



### **Sterwin Names Ander**

Melvin R. Ander has been appointed a technical sales representative for Sterwin Chemicals,



Melvin R. Ander

Inc., New York, and has been assigned to the company's Evanston, Ill., office, it was announced recently by William X. Clark, vice-president in charge of sales. Mr. Ander will work under the supervision of J. A. Revord, manager of the Evanston office.

Prior to joining Sterwin, Mr. Ander was associated with Durkee Famous Foods in the new product development work, and was previously associated with Magnus, Mabee and Reynard, Inc., New York, in the Chicago area.

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### **Purex Annual Meeting**

Net sales for the quarter are up 17 per cent, to \$23,034,000, compared with \$19,714,000 for the July 1 to Sept. 30 period last year it was reported by George A. Evans, vice president in charge of finance, Purex Corp., South Gate, Calif. "Forecasts for the 1961 fiscal year are not finalized in all areas of the business, but we are confident that earnings for this year will show a greater rate of increase than the 20 per cent gain achieved during the first quarter," Evans declared.

These statements were made at the annual meeting of the stockholders, presided over by Adrien C. Pelletier, chairman of the board.

Stockholders approved the recommended increase in the num-

ber of directors, and the eleven who served last year were re-elected. Sydney Thornbury, president of Turco Products, Inc., was elected the additional board member, and also a vice-president of Purex.

Stockholders also approved the establishment of a new restricted Stock Option Plan for officers and key executive employees. The option price will be 95 per cent of the market value of the stock at the time each option is granted.

Stockholders also voted to increase the authorized preferred stock of the company from 40,000 to 100,000 shares. The initial authorization was voted by the stockholders in Oct. 1957.

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### **Lever Bros. 65th Birthday**

More than 8,000 relatives and friends of employees of Lever Brothers Co. took part in an all-day program held Oct. 24, at its Los Angeles plant. The occasion marked the 65th birthday of Lever Brothers Co.

Presentation of a symbolic package, representing the 29 millionth case of products manufactured in the plant, highlighted ceremonies at the open house.

The plant was dedicated in 1951 by Charles T. Atwood, plant manager. It now serves as manufacturing facility and distribution center for consumers in 11 western states.

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### **Theo Joins Chemex**

Chemex Industries, Inc., Tampa, Fla., manufacturer of floor care products and sanitary chemicals, recently announced the appointment of Steve P. Theo as technical director. He is in charge of a new research and development program, as well as directing production and purchasing. He is also technical advisor to the sales department.

Mr. Theo was formerly with Dettelboch Chemical Co., and The Selig Co., both of Atlanta, Ga. He is a graduate of the University of Athens, Greece, and holds an M.S. degree from the Georgia Institute of Technology.

### **P&G Soap Sales Changes**

Appointment of John W. Hanley to the newly created post of manager of case soap products



John W. Hanley

was announced recently by W. Rowell Chase, vice-president of the soap products division of Procter & Gamble Co., Cincinnati.

Mr. Hanley, who has been manager of sales of case soap products for P&G since 1955, is in charge of the company's household soap and detergent products business.

Two other changes in P&G's soap products division were announced at the same time. O. B. Butler, currently manager of P&G's central sales division for soap products, succeeds Mr. Hanley as manager of case soap sales.

J. C. Cornell, formerly manager of P&G's South Chicago sales district for soap products, succeeds Mr. Butler as manager of the central sales division.

Mr. Hanley joined P&G in 1947 as a salesman. He rose through the sales organization, was named district manager in 1951, division manager in 1954, and case soap sales manager in 1955.

— ★ —

### **Revlon Names V-P**

Revlon, Inc., New York, announced the recent appointment of Lewis C. Davis as vice-president in charge of the department and specialty store division.

Mr. Davis was formerly senior vice president of Rayco, Inc.



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SOAP and CHEMICAL SPECIALTIES

## CIBS Announces Slate

The nominating committee of the Cosmetic Industry Buyers & Suppliers Assn. (CIBS) reported its recommendations for a slate of officers for 1961 at its October 13, luncheon meeting at the Savoy-Hilton Hotel, New York. The slate includes:

President, Robert C. Ring, Hewitt Soap Co.; first vice-president, J. William Voit, George Lueders & Co.; second vice-president, Eugene M. Roberts, Lanvin Parfums; corresponding secretary, Frank N. Ponds, Dominion Products, Inc.; recording secretary, Horatio R. Rogers, Colgate-Palmolive Co.; treasurer, Robert Roberts, Emery Industries, Inc. For directors, H. Robert Miller, White Metal Manufacturing Co. and James E. Bayer, Lehn & Fink Products Corp.

A feature of the October meeting was a talk by John Kennedy, unit manager of the National Broadcasting Co. Perry Como Show. Mr. Kennedy told how a television show is produced.

A change in meeting place for the monthly luncheon meetings of CIBS was also announced at the meeting. The November 10, December 8 and January 12, 1961 luncheons will be held at the Manhattan Hotel, Eighth Ave. and 44th St., New York.



## Solarine Sales Head

The appointment of Robert R. Hughes as industrial sales director of Solarine Co., Baltimore chemical specialties firm, was announced in mid-October by Stanley Hoffberger, general manager. Mr. Hughes, who will also be in charge of Solarine's Duo-Dellay Products

Robert R. Hughes



Officers of Cosmetic Industry Buyers & Suppliers Assn. (CIBS) with guest speaker at October 13 meeting. Left to right: J. William Voit, George Lueders & Co., second vice-president; John J. Kennedy, N.B.C. television, speaker; Lamson Scovill, Scovill Manufacturing Co., president, and Robert C. Ring, Hewitt Soap Co., first v.p.

Division, for the past eight years has been with Fort Howard Paper Co., Green Bay, Wis. He handled Fort Howard's sales-training program and contacted sanitary supply distributors and paper jobbers in the Middle Atlantic states.

In his new post, Mr. Hughes oversees sales of all Duo-Dellay rug maintenance products, including "Duo-Dellay" soil resistant shampoo, "Artloom" carpet shampoo, "Dellay" soil resistant spray, "Dry-

Klean" powder cleaner and several new specialty items in the rug, carpet and upholstery maintenance field. Included in this latter group are mothproofing compounds, sanitizers, deodorizers, polymer sizings and powdered synthetic detergents.

## P&G 3-Months Earnings Up

Procter & Gamble Co., Cincinnati, reported on Oct. 28, consolidated net earnings of \$32,675,887 for the three months ending

## Colgate Changes Household Division

COLGATE-Palmolive Co., New York, recently announced a major reorganization of the product management and new products department of its household products division, in order to achieve greater flexibility in marketing.

Robert W. Young, Jr., vice president and director of marketing for the division, stated the changes are part of the company's efforts to keep ahead of marketing development, and prepare for accelerated growth in the future.

Two new categories of supervision have been established under the reorganization—the associate general product manager level, which reports to general product manager Ralph F. Linder, and group product managers.

Appointed as associate general product managers were Robert Angelus and F. Scott Matthews.

Mr. Angelus will supervise the marketing activities of "Ajax," "Palmolive" soap, "Choice" soap, "AD," and a new aerosol. Mr. Matthews is responsible for the marketing activities of "Fab," the "Vel" line, "Florient," "Cashmere Bouquet" soap, and "Super Suds."

In addition, William T. Eldridge has been appointed as associate general product manager—new products, to supervise the activities in that area. Named to the newly-created position of group product manager were: David W. Ross and Thomas J. Hennion, who will report to Mr. Angelus; and Robert J. Clark, who will report to Mr. Matthews. Ellsworth Timberman, who recently joined Colgate-Palmolive, was also appointed a group product manager. Mr. Timberman was formerly with Kenyon & Eckhardt advertising agency as an account executive.

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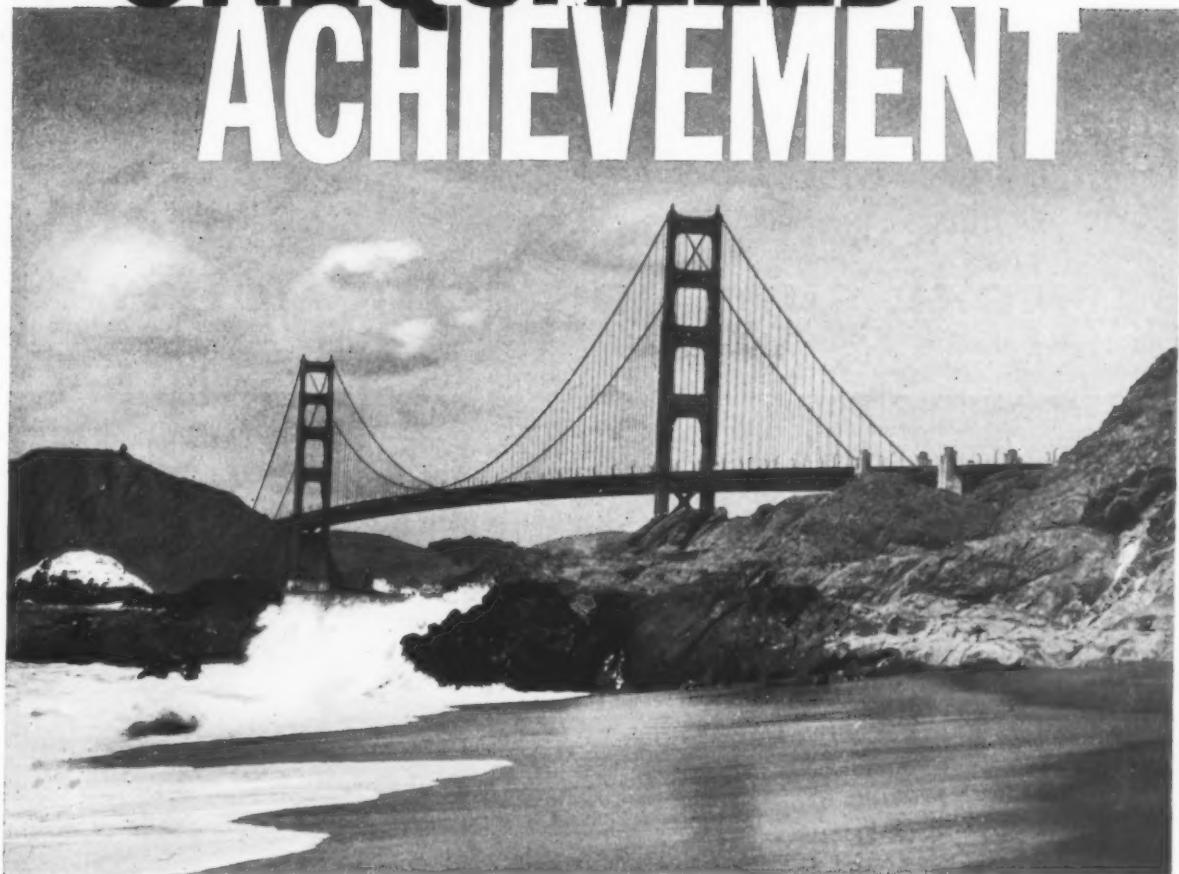
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Sept. 30. The earnings are equal to \$1.57 per share.

The current three-month earnings increased approximately 10 per cent from those reported for the same period in 1959. Earnings in the 1959 period were \$29,472,211, equal to \$1.42 per share.

—★—

#### Ionescu Promoted at Mona

M. Ernest Ionescu was recently appointed director of market development and technical service, Mona Industries, Inc., Paterson, N. J. Mr. Ionescu has extensive experience in the surface active agents field, and was formerly connected with Nopco Chemical Co., Newark, N. J., and American Alcolac Corp., Baltimore.

—★—

#### Milner Buys Cinderella

Dumas Milner Corp., Jackson, Miss., recently announced its purchase of controlling interest in Cinderella International Co., Orlando, Fla., a retail marketing organization for household products and cosmetic line sold under the Cinderella name.

Howard S. Cohoon, president of Dumas Milner Corp., revealed his company's plans for expanding the Cinderella sales organization to cover all fifty states within the next year. He also indicated that Cinderella's executive personnel and offices will be moved to Jackson, Miss.

Meredith E. Dobry, founder of Cinderella International, will continue with the company as vice-president in charge of sales, with Howard S. Cohoon as president, and Vincent E. Tateo executive vice-president of the expanded operation.

This is the second acquisition by the Dumas Milner Corp. within a month. They recently purchased Commonwealth Products, Inc., Kalamazoo, Mich. Milner manufactures a number of well-known household cleaning products — including "Pine-Sol," "Perma-Starch," and "Mysticlene" — which sell nationally and in seventeen foreign countries.

#### Johnson 25 Years in S. A.

Howard M. Packard, president, S. C. Johnson & Son, Inc., Racine, Wis., and five other officials



Howard M. Packard

of the firm, joined 11 Central and South American subsidiaries in marking the 25th anniversary of the company's entry into the Latin American market.

Opening a three day conference in Fortaleza, Brazil, attended by some 60 local business and civic leaders, Mr. Packard urged improvement in the Latin American standard of living, by private business "giving steady, year-after-year work to the people, at good pay with reasonable profit sharing."

He made a flat offer of financial and technical aid from the Johnson firm to Latin American businessmen who are interested in manufacturing and distributing any of the company's 112 products on the continent.

Mr. Packard urged acceleration in the adoption of profit sharing in Latin America, a policy Johnson's pioneered in the United States 43 years ago.

The Johnson's Wax organization established its first Latin American operation at Fortaleza in October, 1935, when H. F. Johnson, chairman, and two associates flew there on a scientific expedition to study how the company could better utilize carnauba wax in its products. The firm now has subsidiaries or licensed manufacturers in Brazil, Argentina, Chile,

Colombia, Costa Rica, Cuba, Guatemala, Mexico, Peru, Uruguay and Venezuela.

—★—

#### Henry J. Kenney Dies

Henry J. Kenney, eastern zone manager for the bulk soap sales department of Procter & Gamble Distributing Co., Cincinnati, died Oct. 7, at Montclair (N.J.) Hospital, after a long illness. He was 59 years old and had been with Procter & Gamble for 42 years. While with P&G he held positions as zone manager at various times in the southern, central, western and eastern zones.

A well-known figure in the laundry industry throughout the U. S., he was immediate past president of the "Old Timers Club" of the Laundry and Cleaners Allied Trades Assn.

Mr. Kenney is survived by his widow, Mrs. Norma M. Kenney, three daughters, three brothers and two sisters.

—★—

#### Lueders Celebrates 75th

George Lueders & Co. celebrated its 75th anniversary with a dinner-dance held October 14 at the Hotel Astor, N.Y.C. Frederick J. Lueders, president of the company, was presented with an oil painting by company officers and directors, and employees presented him with a silver ice bucket.

—★—

#### Allied Expands Facilities

Allied Chemical Corp., New York, announced recently expansion of its Solvay Process Divisions' chlorinated methane facilities at Moundsville, W. Va.

The new addition will increase chlorinated methanes capacity by approximately 40 per cent, according to W. H. Brumfield, Solvay's president.

Methylene chloride is used in the production of paint strippers, solvent compounds, and aerosols. An important outlet for chloroform is its use in the manufacture of certain "Genetron" aerosol propellants manufactured by Allied Chemical's General Chemical Division.

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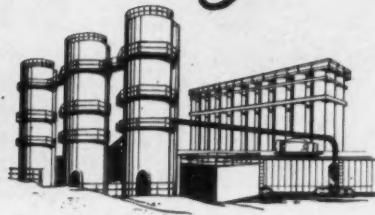
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### New Puritan Executives

Ted V. Fisher, executive vice-president and general manager of the Puritan Chemical Co.,



William H. Frey

Atlanta, announced recently the appointment of William H. Frey as vice president in charge of sales and John M. Frey, treasurer. William Frey, formerly secretary-treasurer of the company, has been with Puritan since 1947, when he was appointed controller. He is a graduate of Washington University.

John M. Frey joined Puritan in 1952 as office and personnel manager and was promoted to the position of controller in 1957. He is a graduate of Duke University. Puritan is a manufacturer of cleaning and maintenance chemicals and offers a consultant engineering service in industrial and institutional maintenance. A. L. Feldman, Atlanta, is president of the firm, which he founded in 1920.

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### Emkay Makes Changes

Emkay Chemical Co., Elizabeth, N. J., recently announced four administrative changes in its sales department serving textile, paper, leather and other industrial plants.

Warren Harrington has been appointed technical sales representative for North and South Carolina. Mr. Harrington has had over twenty years of plant experience with United Piece Dye Works and North Carolina Finishing Co., and during the past few years has been demonstrating and selling chemical specialties. Mr. Harring-

ton will work out of Greensboro, N. C.

Thomas J. McDonald, Emkay's sales representative in New England for four years has been promoted to sales manager for the area. He will work out of West Barrington, R. I.

David L. Armitt, a laboratory technician for four years will join their sales staff, industrial division; and Joseph Goodman, a graduate of New Bedford Institute of Technology, with a degree in textile technology, has joined Emkay as a sales trainee.

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### Coastal Adds Mothproofers

Coastal Chemical Corp., Garfield, N. J., announced the addition of mothproofers, in both direct spray and shampoo additive types, to its line of specialties for the professional cleaner.

No special equipment is required for either mothproofer which may be used for carpeting, upholstered furniture, draperies and the like. The spray type, applied undiluted, may be used with an electric spray gun or a garden-type sprayer. The additive type is added to the ready-to-use shampoo in the soap tank.

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### Barber 25 Years at Verley

Robert Barber was tendered a dinner recently on celebrating his 25th year with Albert Verley & Co., Linden, N. J., processors of essential oils and aromatic chemicals.

Mr. Barber is director of compounding and superintendent of the Linden plant.

C. Frank Morgan, left, executive vice-president of Albert Verley & Co., Linden, N. J., congratulates Robert Barber, who is celebrating his 25th anniversary with the firm.



### Ralph Wechsler Retires

Ralph Wechsler, chairman of the board of Nopco Chemical Co., Newark, N. J., was honored re-



Ralph Wechsler

cently at a testimonial dinner marking his retirement after almost 40 years with the company.

Over 200 employees attended the dinner, and presented him with a set of golf clubs.

Mr. Wechsler joined Nopco as a chemist in 1921. He later served on the board of directors and as treasurer, and was president of the firm from 1955 to 1959.

One of the early members of the company, he founded Vitex, the vitamin division, and also the plastics plant. Mr. Wechsler directed the company's acquisition of its European plants and placed Nopco on the New York Stock Exchange.

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### Purex Appoints Brown

Charles G. Brown has been appointed director of marketing research for Purex Corp., Ltd., South Gate, Calif., it was recently announced by James A. Barnett, manager of the Purex product planning and marketing research division.

Mr. Brown was formerly with the Carnation Co., of Los Angeles, where he served as director of marketing research for the past five years. Prior to that he held a similar position with the Max Factor organization for four years.

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## Makes Granular TKPP

Tetrapotassium pyrophosphate for use in home laundry liquid detergents is now being produced on a commercial scale at newly installed facilities at the Jeffersonville, Ind., plant of Hooker Chemical Corp., Niagara Falls, N. Y. Going on stream of the new installation was announced Nov. 11 by Robert E. Noble, general manager of Hooker's phosphorus division of which the plant forms part. Mr. Noble makes his headquarters at Jeffersonville.

Rapid solubility and good sequestering power are claimed for the granular grade of TKPP made at the Jeffersonville plant. Major end-use for the material is manufacture of heavy duty liquid detergents for household use which are now being widely introduced.

Due to its ready solubility TKPP is also expected to find use in the industrial all-purpose cleaner field replacing sodium phosphates in certain applications.

Hooker is a producer of phosphoric acid and low chloride caustic potash, the two basic raw materials for tetrapotassium pyrophosphate. The firm is currently enlarging production capacity for caustic potash at Niagara Falls and earlier this year it installed a new

replacement phosphoric acid unit at Jeffersonville.

## Gen. Aniline Adds Eight

Harold G. Shelton, vice president and group executive in charge of the chemical, dyestuff and pigment divisions of General Aniline & Film Corp., New York, announced recently eight appointments to his staff, in the reorganization program in this section of the company's operations.

All were associated with the former Dyestuff & Chemical division of the corporation which has now been reorganized into three separate divisions: Antara Chemicals, General Dyestuff, and Collway Pigments.

Mr. Shelton announced the following appointments to his group executive staff: G. G. Bierwirth, director, personnel relations; J. R. Bonnar, director, industry and government relations; S. S. Colman, director, purchasing; P. F. Hand, manager of administration; A. Jaffy, controller; C. E. Stevenson, director research and commercial development, and G. R. Wick, director, engineering.

Manufacturing operations are located in Linden and Paterson, N. J., Rensselaer, N. Y., Calvert City, Ky., and Huntsville, Ala.

## Scientific Section to Meet

The scientific Section of the Toilet Goods Association will hold its 32nd meeting Nov. 30 in the Sert Room of the Waldorf Astoria Hotel, New York. Starting at 9:30 A.M. the all day meeting will hear the following contributions:

"Change in Ultra-Violet Absorption Spectra with pH Use in the Analysis of Toiletries," by Donald E. Dean, Robert Suffis and Adele Levy, Shulton, Inc., Clifton, N. J.

"Some Analytical Applications of X-ray Fluorescence Spectrometry," by G. Robert Clark, Food and Drug Administration, Department of Health, Education and Welfare, Washington, D. C.

"Odor Intensity and Stereochemical Theory of Olfaction," by James W. Johnston, Jr., and Albert B. Parks, Georgetown University Schools of Medicine and Dentistry.

"Studies on the Darkening Action of Dihydroxyacetone," by Peter Flesch and Elizabeth C. Jackson Esoda, Department of Dermatology, University Hospital, University of Pennsylvania, Philadelphia.

"Studies on the Absorption of Simple Dye Stuffs by Hair," by Stanley Brechner and Martin M. Rieger, Warner Lambert Research Institute, Morris Plains, N. J.

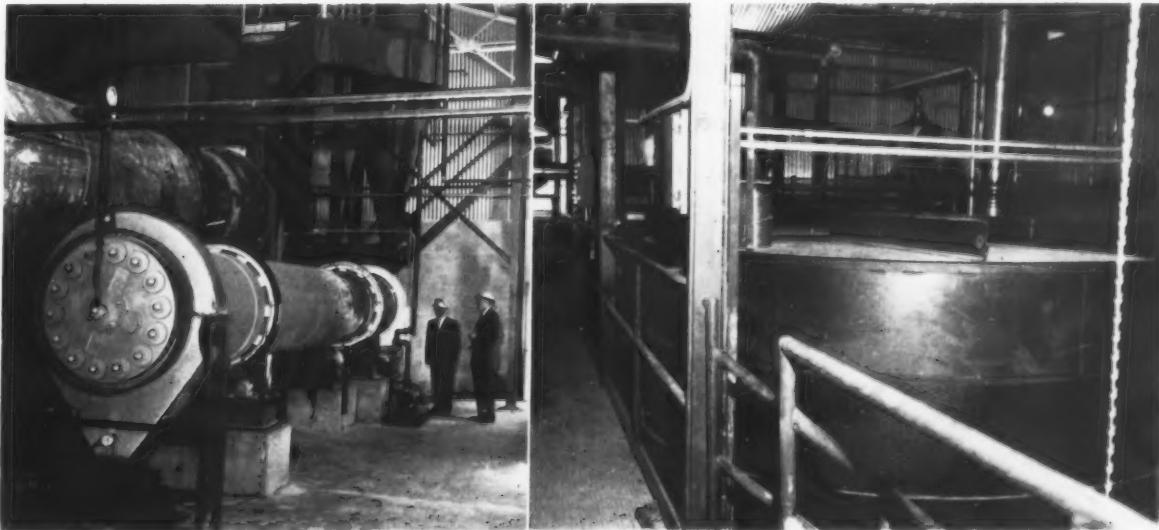
"Application of the H. L. B. System to the Solubilization of Essential Oils," by S. J. Strianse and Monroe Lanzet, Yardley International Research Laboratories, Union City, N. J.

"Specialization, the Key to Formulating Negro Cosmetics," by Edward Sagarin and Franklin H. Cooper, Lena Horne Beauty Products, Inc.

Luncheon tickets reserved in advance are \$12.50 per person,

Photos below are of new facilities for production of tetrapotassium pyrophosphate at phosphorus division plant in Jeffersonville, Ind., of Hooker Chemical Corp., New York. In photo at left are shown TKPP drying equipment and dust collection

system being inspected by Barrett B. Brown, production manager of the division, and Joseph T. Hanson, works manager a few days before commercial production began. Right: Caustic potash storage tank viewed from operating platform.





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\$15.00 sold at the door. There is no registration fee. Badges for admittance to the meetings must be requested in advance. All communications should be addressed to TGA, room 2006, 1270 Avenue of the Americas, New York 20, N. Y.

### Cowles Chemical Expands

Cowles Chemical Co., Cleveland, has begun construction of a new chemical plant at Joliet, Ill., it was announced recently by R. F. Huntley, president. "It is fitting," he said, "that we undertake this major expansion in this, our 75th anniversary year."

The company's major basic chemicals, detergent silicates, and products for commercial laundries, food processors and metal finishers will be manufactured in Joliet upon completion of the plant next summer. The Promat division of Poor & Co., Waukegan, Ill., purchased by Cowles on Sept. 1 of this year, will be moved to Joliet when the plant is ready.

President Huntley stated that demand for Cowles products has grown tremendously in recent years, and is now beyond the capacity of present plants on round-the-clock schedules. The new facility will relieve some of this pressure as well as provide more production for anticipated growth.

"We could use a substantial part of the capacity right now," said Mr. Huntley, "so this new plant was designed enabling it to

Artist's conception of new chemical plant of Cowles Chemical Co., Cleveland, now being constructed at Joliet, Ill., in 75th year of the firm.



NOVEMBER, 1960



Officers and directors of American Society of Perfumers, at the Orange County country club, Middletown, N. Y., where they met to discuss preparations for society's fall activities. Seated (left to right) Anthony Frascati, by-laws, Mrs. Dorothy Douglass, secretary, Oliver L. Marton, board chairman. Standing, (left to right) Bernard Polak, president, John Hancock, director, Herbert Sommer, 2nd vice-president, Edward J. Shuster, director.

be enlarged to double its size as soon as demand requires it."

### New All-Purpose Cleaner

A new all-purpose concentrated synthetic detergent for industrial use was introduced late last month by Consolidated Paint & Varnish Corp., Cleveland, O. Called "Goodyear All Purpose Cleaner (APC)," the product may be applied to a wide range of surfaces to remove oily soil. It is claimed to be safe for use on metal,

floors, windows and painted surfaces — and also on hands.

A solution of one ounce of "APC" in a gallon of hot or cold water is said to be an effective remover of wax from floors and to be suitable for washing cars and trucks. Solutions of the cleaner are claimed to be odorless, non-toxic and mild to the skin and to keep well in washroom dispensers.

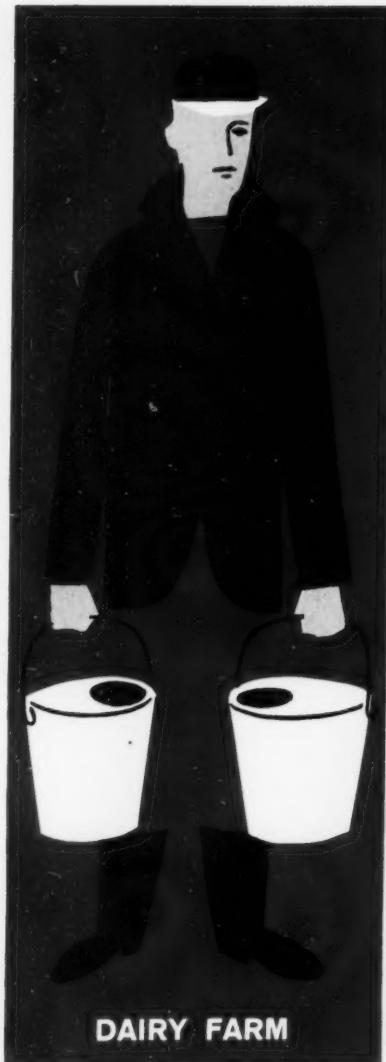
Suggested for general cleaning in plant and factory the cleaner is available in 45-gallon drums, five gallon pails, one gallon cans.

### Armour Claims First

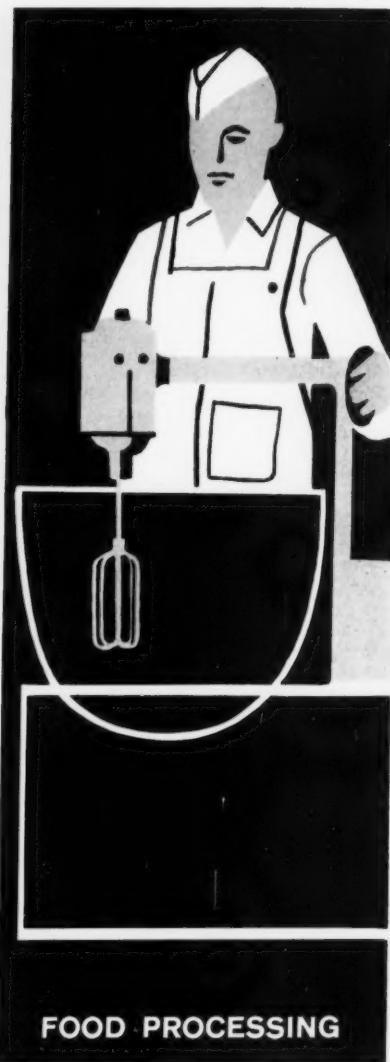
Armour Industrial Chemical Co., Chicago, announced gas chromatography analysis is now being used to determine fatty acid product compositions.

The company claims to be the first producer of fatty acids to adopt this modern technique for quality control.

P. L. Sheppard, fatty acid sales manager said, "only the method of determining composition has been changed to aid in closer control of strict specification processing."



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### **Polzer Named Witco V.P.**

George F. Polzer was recently promoted to vice-president in charge of purchasing, transporta-



**George F. Polzer**

tion and customer relations, Witco Chemical Co., New York. Mr. Polzer will direct these activities for all of Witco's divisions, including Sonneborn Chemical & Refining Corp., Ultra Chemical Works, Inc., and Witco's Tar Products and Pioneer Asphalt divisions.

Prior to his promotion, Mr. Polzer was executive vice president of Ultra Chemical Works, Inc., a wholly owned Witco subsidiary. He joined the company in 1956 as director of purchases, and was formerly general purchasing agent for chemicals and raw materials with American Cyanamid Co. Mr. Polzer holds a master's degree in chemistry from Cornell University.

Witco manufactures and markets a broad line of chemicals and allied products including detergents and detergent chemicals, phthalic anhydride, white oils, solvents, carbon black, resins for urethane foams, petroleum sulfonates, lubricating oils, metallic soaps, tar and asphalt products, and building product specialties.

### **Velsicol Adds Sales Reps.**

Velsicol Chemical Corp., Chicago, announced recently the appointment of H. Duane Holsapple and Glenn R. Grosch as sales representatives, agricultural chemicals division.

Mr. Holsapple is a graduate

of Iowa State University, and Mr. Grosch is a graduate of the University of Illinois. Both majored in agronomy.

### **Robertson Visits Dema**

David W. Robertson, Robertson Sales Co., Los Angeles, West Coast representative for Dema Engineering Co., St. Louis, recently spent three days at the Dema plant familiarizing himself with the firm's products and manufacturing procedures. Robertson represents Dema in California, Nevada and Arizona. Dema designs and manufactures automatic dispensing devices for chemical specialties. Its products include liquid proportioners for liquid hand dish washing detergents, rinse injectors, conductivity controllers, and liquid feeders for dispensing liquid dish washing machine detergents.

### **DuBois Names Controller**

A. Paul Jones has been appointed controller of Du Bois Chemicals, Inc., Cincinnati, it was announced recently by Louis Lerner, president.

Mr. Jones, previously associated with Mendril Industries on the west coast, has also served as chief cost accountant of Waste King Corp. A native of Cleveland, he is a graduate of Western Reserve University.

**Jack H. Rosfeld**, formerly executive vice-president, was recently elected president of Hood Chemical Co., Ardmore, Pa., household chemical specialties manufacturer. He succeeds the late R. Y. Cutler.



### **Grafer Leaves Williams**

Harold L. Grafer, head of the toiletries division, J. B. Williams Co., Glastonbury, Conn., re-



**Harold L. Grafer**

signed recently from this post.

Mr. Grafer was appointed vice president and director of marketing in July 1958. Prior to joining Williams, he was vice president of McCann-Erickson, Inc., New York advertising agency, serving as consultant on drug and toiletry accounts and director of marketing services. He was to remain with the company in an advisory capacity while making plans for the future.

### **Jefferson Opens New Plant**

Jefferson Chemical Co., Houston, formally opened a new plant, for the manufacture of specialty chemicals, in Conroe, Tex., Oct. 27. The extensive chemical manufacturing facilities were acquired by the company less than a year ago from Gulf Oil Corp. First-phase modifications and new construction have now been completed.

Products include specialty surface active agents used in the manufacture of soaps and detergents, corrosion inhibitors, and morpholine, an intermediate used in surface active agents. The unit is also producing polypropylene glycol and propylene oxide triols.

This acquisition is part of Jefferson's plans for expansion and new development in ethylene and propylene oxide derivatives.

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## IFF Expands at Teterboro

International Flavors & Fragrances, Inc., New York, announced recently that it is expanding production facilities of its flavor division at Teterboro, N. J. Within the next six months plans call for a 14,000 square feet addition to existing production space, an additional spray unit, enlarged service facilities and power plant.

Current expansion is part of a three year program designed to consolidate all of the firm's flavor operations in the United States at the Teterboro location.

— ★ —

## Heyden Shifts Kratina

Jerome T. Kratina, formerly sales representative in the New York area for Heyden Chemical Division of Heyden Newport Chemical Corp., New York, is now covering northern and central New Jersey, it was announced last month. He makes his headquarters in the division's Newark, N. J. district office.

With Heyden since 1939, Mr. Kratina served as assistant to the general sales manager and administrative assistant to the corporation's comptroller prior to becoming a sales representative in 1954.

— ★ —

## General Aniline Ups Three

Appointment of general managers for three newly organized divisions of General Aniline & Film Corp., New York, was announced recently by Harold G. Shelton, vice president and group executive.

C. C. Schulze now heads the Antara Chemicals division, Joseph W. Conlon the General Dyestuff division, and Robert J. O'Brien the Collway Pigments division.

Headquarters of the newly organized divisions, which formerly comprised the Dyestuff & Chemical division, are at 435 Hudson St., with manufacturing operations in Rensselaer, N. Y., Calvert City, Ky., Huntsville, Ala., and in Linden and Paterson, N. J.

With GAF since 1942, Mr. Schulze was most recently assistant



Production facilities of International Flavors & Fragrances in Teterboro, N. J.

general manager of the Dyestuff & Chemical division. He has been manager of the Rensselaer plant and manager of manufacturing for the division.

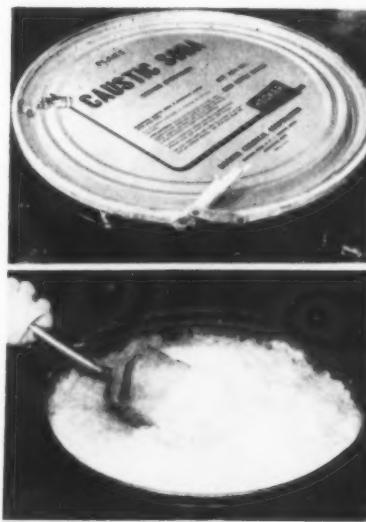
— ★ —

## New Hooker Caustic Drum

A new, non-premium full open head steel drum of 400 to 450 pounds capacity has now been made standard by the Eastern Chemical Division of Hooker Chemical Corp., Niagara Falls, N. Y., for its flake and screened caustic soda. The new 34½ by 21 inch drum has a capacity of 49 gallons, weighs about 20 pounds, features snap-lock rims.

Said to be easier to handle and more weatherproof than other drums the new containers have greater re-use and resale values. As a customer service Hooker continues to package caustic soda in leverlock open head steel drums for those who prefer them at a 25 cents per cwt premium.

Closed and open view of new non-premium full open head steel drums of Hooker Chemical.



## Cos. Chemists Program

An all-day technical program, group luncheon, reception and dinner dance are scheduled for the annual meeting of the Society of Cosmetic Chemists, to be held Tuesday, Nov. 29, at the Biltmore Hotel, New York.

The morning session will be composed of the following presentations: "Cosmetic Advertising Under the Federal Trade Commission Act," by Charles A. Sweeny, Federal Trade Commission, Washington, D. C.; "Some Toxicologic and Clinical Studies with Dihydroxyacetone," by Dr. Leon Goldman, College of Medicine, University of Cincinnati; "Systemic Effects of Toxically Applied Cosmetics," by Dr. Frederick Reiss, Post Graduate Medical School, New York University; "The Current Status of Acne Management," by Dr. John Strauss, School of Medicine, Boston University.

A symposium on new manufacturing techniques with special emphasis on the transition from laboratory scale to plant batch production will be presented in the afternoon. Donald M. Skanene and Harold M. Beal, College of Pharmacy, University of Connecticut, will participate in the symposium with a study of sonic emulsification. John F. Fischer of Patterson Kelly Co. is scheduled to speak on liquid/solid and solid/solid mixing.

The technical program will be followed by a reception at 6:30 P.M. and a dinner dance at 7:30. For further details and advance registrations communicate with Walter Wynne, chairman, arrangement committee, Society of Cosmetic Chemists, 2 East 63rd Street, New York 21.

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### Appointment Announced

Appointment of Dr. C. John Di Cuollo to the research and development department, toilet articles division, Colgate-Palmolive Co., New York, was announced recently by Dr. L. D. Apperson, director of research for the division.

Having received his doctoral degree in biochemistry from Rutgers University, Dr. Di Cuollo joined the skin products section at the Colgate-Palmolive laboratories in Jersey City.



### Hait Elected FMC Pres.

James M. Hait was elected president of Food Machinery and Chemical Corp., San Jose, Calif., at a recent board meeting. He was formerly executive vice president in charge of the ordinance division and director of engineering.

With the retirement of former president, Ernest Hart, at midyear, the position of president had been combined with that of board chairman, explained Paul L. Davies, chairman and chief executive officer.

With the company 32 years, he started with Peerless Pump division, Los Angeles; was promoted to chief engineer in 1932.

Mr. Hait began his career in 1928, immediately following graduation from Rensselaer Polytechnic Institute. From 1940 to 1946, he managed the company's wartime procurement and engineering division, Los Angeles. Transferred to headquarters as

James M. Hait



corporate director of engineering, he was elected a vice president in 1946.

At the outbreak of Korean hostilities, 1951, he was appointed manager of a specially created ordnance division at San Jose.

Mr. Hait was elected a member of FMC's board of directors and executive committee in 1952, and four years later he became an executive vice president of the company.

### Hercules New Gen. Mgrs.

A. E. Forster president Hercules Powder Co., Wilmington, announced recently the appointment of two new general managers: Werner G. Brown, cellulose products department; and Jack D. Hayes, explosives department.

Mr. Brown, assistant general manager of the cellulose products department since 1957, succeeds Elmer F. Hinner, who was elected a vice president recently.

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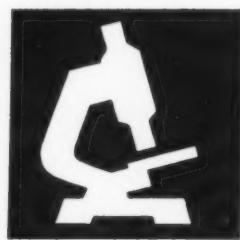
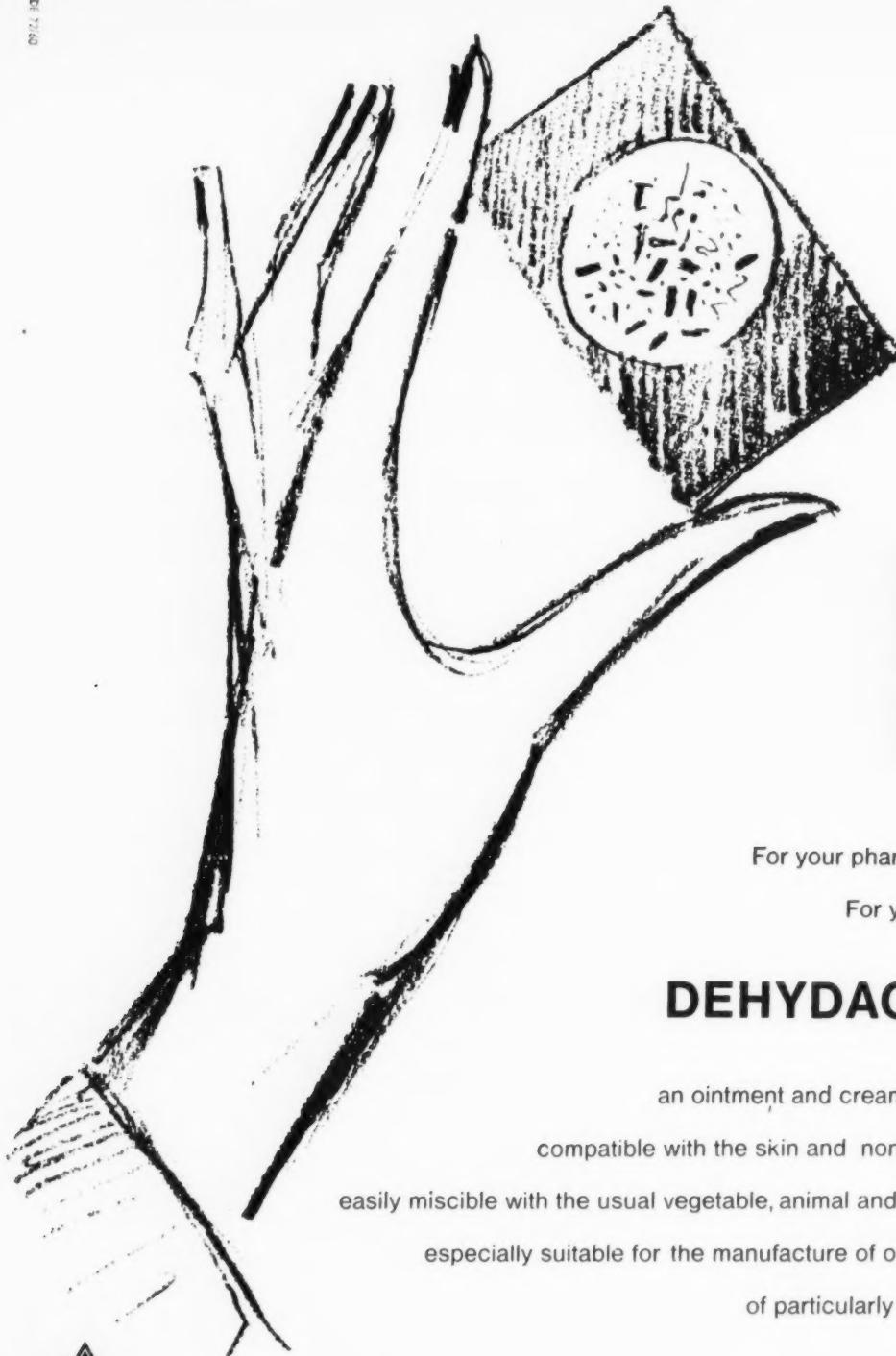
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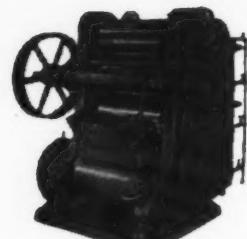
Package Machinery Model S Wrapper.

Model 803 Standard-Knapp Case Sealer.

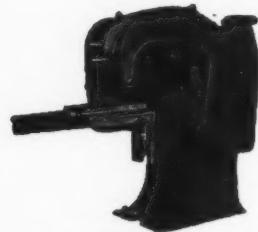
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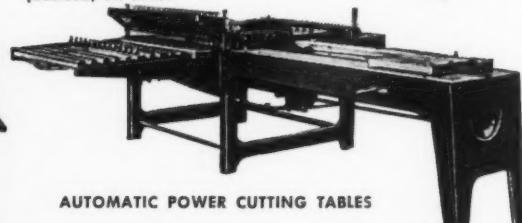
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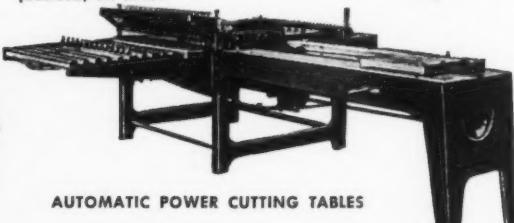
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**Chemists Wanted:** Experienced in research and/or product development in surface active agents, detergents, chemical specialties or emulsions. Philadelphia laboratory of national multi-plant organization. Reply in confidence to R. S. Hopkins, Franklin Research, 5131 Lancaster Ave., Phila. 31 Pa.

**Wanted:** Jobbers and distributors for miniature guest soaps, wrapped and unwrapped. Write for samples and prices to Box 529, c/o Soap.

**GENERAL SALES MANAGER**

Here's a tough job that offers a challenge and a great financial potential. You must have full sanitary maintenance background. Minimum of 5 years. You must be capable of hiring 25 to 50 salesmen and train same in field. If you are looking for a challenge and responsibility with an established 30 year old company located in the midwest, send complete resume today. Liberal salary, plus profit sharing arrangement, fringe benefits. Send full information to

**Box 528**

c/o Soap & Chemical Specialties  
254 W. 31st St. New York 1, N. Y.

**Plant Manager Wanted:** For a soon to open detergent manufacturing plant in the southeastern part of the U. S. Must be thoroughly familiar with detergent formulations as well as factory management. Previous experience required. Willing to re-locate in Florida. Chemical Engineering degree preferred. All replies confidential. Address Box 531, c/o Soap.

**Chemist Wanted:** Must be experienced in formulating specialized cleaning compounds, liquid detergents and disinfectants. Growing company in southwest since 1926. Excellent opportunity. Salary open. State Chemical Co., P. O. Drawer 310, Amarillo, Texas.

**Flavor Salesman Wanted:** Excellent opportunity with well known aromatic house for salesman in flavor sales. Experience in New Jersey and Philadelphia area preferred. Salary and commission. Address Box 519, c/o Soap.

### Situations Wanted

**Line Wanted:** By manufacturers agent now contacting soap, chemical, drug, refinery plants, and other processing plants in Texas, Louisiana, etc. Please send details to Box 8213, Houston 4, Texas.

**Chemical Sales:** 7 years experience selling surfactants, emulsifiers and industrial chemicals to manufacturers of all cleaning products, chemical specialties, cosmetics food, agricultural pesticides, insec-

**RESEARCH AND DEVELOPMENT CHEMIST**

Well known Northeastern chemical specialty manufacturer desires a research chemist with an advanced degree. Must have experience in detergent synthesis and chemical specialties formulations for the household consumer. Should be capable of conducting research and a product development program independently through to completion. Salary together with excellent fringe benefits. Send full information in confidence to:

**Box 536**

c/o Soap & Chemical Specialties  
254 West 31st Street, New York 1, N. Y.

### Situations Wanted

ticides and various technical processing industries. Also sold cutting oils, dyes, pigments and leather chemicals. Prefer eastern representation. Address Box 522, c/o Soap.

**Sales:** Age 31, B.S. degree 3 years laboratory and 6 years chemical sales experience. Desire Western New York assignment in chemical sales on full time basis or will consider non-conflicting part time chemical sideline. Address Box 532, c/o Soap.

**Chemist:** Many years experience in formulations and production of detergents, automotive chemicals, polishes, seeks part time work with companies interested in these products. Located in lower New York state. Address Box 534, c/o Soap.

**Organic Chemist:** Dr. in organic chemistry, specialized in soaps, vegetable oils, fats, fatty acids, and derivatives. 12 years experience, research, product development and formulation. Desires responsible position. Address Box 533, c/o Soap.

(Cont'd on Page 187)



## HOOKER'S NEW CAUSTIC SODA DRUM FLIPS OPEN, EMPTIES EASIER

You don't need a tool kit to open Hooker's new caustic soda drum. Flip the snap-lock and it's open. Flip it the other way and it's closed.

It's easier to get at the soda because the drum has a full open head—21 inches across.

The soda pours smoothly when the drum is tipped. There's no rim to catch and hold it; no waste.

The improved seal keeps out moisture, too.

Since the drum mouth is bigger, it's easier to re-use the drum after it's empty.

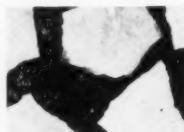
Yet this 400-450-pound capacity drum is standard. There's no price boost or premium. It's another advance from Hooker, who first supplied 18-inch-mouth drums as standard.

Nevertheless, the contents are still your

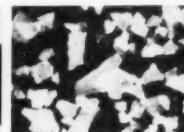
prime concern. Hooker's caustic soda is of uniform quality. Flake thickness and size don't vary from batch to batch.

Hooker's caustic soda is available in four sizes: regular, fine, crystal and granular. Specify flake size when ordering.

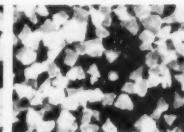
REGULAR



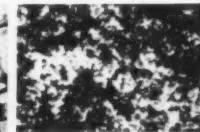
FINE



CRYSTAL



GRANULAR



**HOOKER CHEMICAL CORPORATION**  
111 UNION STREET, NIAGARA FALLS, NEW YORK



## Situations Wanted

**Expert Soap Maker:** In the manufacturing of toilet and laundry soap and cleaning compounds, also recovery of glycerine. Will instruct and teach the making of these products and all soap plant operations. Address Box 535, c/o *Soap*.

**Product Development Chemist:** Having diversified experience in cosmetics and specialties desires responsible non-bench type position with progressive firm offering opportunity for advancement. Eastern U. S. Address Box 521, c/o *Soap*.

**Management Specialist:** Graduate engineer, 30 years old. Experienced in manufacturing, distribution, cost reduction and purchasing of synthetic detergents, soaps, fatty acids and allied chemicals. Seeking responsible position with good future. Address Box 523, c/o *Soap*.

**Production Chemist:** Graduate chemist (B.S., M.S.), 6 yrs. with leading textile auxiliary manufacturer (research, production, technical service) mostly detergents and quaternaries. 3 yrs. as chief chemist for quality control and development for widely known janitor supply house. 11 yrs. as research chemist, then production supervisor and quality control head for leading sanitary chemicals firm. Several publications and

patents in bacteriology and chemistry. Address Box 527, *Soap*.

**Organic Chemist:** Biophysicist; Ph.D. and 37 years old. 14 years in teaching, academic research and publications. Experience in organic syntheses and use of tracer methodology in the study of organic, biochemical and biophysical mechanisms. Four years consulting in chemical specialties industry. Desires position offering good beginning and future professional and financial structure. Prefer southwest USA. Address Box 508, c/o *Soap*.

**Organic Ph.D.:** Over 20 years synthesis, development organic chemicals, specialties, waxes, detergents, disinfectants, lotions, skin cleaners, polymers, research direction. Consider partnership, participation, or laboratory direction plus. Address Box 520, c/o *Soap*.

**Executive Sales-Management:** Skilled, experienced manager of profitable, volume, industrial sales of packaging and plastics products and services. 15 years top level sales of plastics injection, compression, transfer, and blow molding services. Heavy experience in contract packaging of aerosol and liquid products. Extensive personal and industry contacts. Address Box 514, c/o *Soap*.

## Miscellaneous

**Dehydrated Plant:** Has open time available on spray and tray

## Miscellaneous

drying equipment for contract, custom or experimental drying of soaps, detergents, chemicals and drugs. H. Gartenberg & Co., Inc., 412 W. Pershing Road, Chicago 9, Illinois.

**Wanted:** New or used equipment for making deodorant and wall blocks, also new or used stainless steel steam jacketed mixing tanks. Address Box 513, c/o *Soap*.

**Overhauling:** Soap presses, completely over-hauled Jones E & ET. Like new. Write for prices. Address Box 530, c/o *Soap*.

## For Sale

**For Sale:** Bowen pilot T-304 SS spray dryers, Sharples #16V inconel soap centrifugals, Hope single piston stainless filler. Perry Equipment Corp., 1410 N. 6th St., Phila. 22, Pa.

**For Sale:** 3 and 4 roll granite steel roller mills. Plodders. Grinders. Chippers. Crutchers. Slabbers. Cutting tables. Kettles. Filter presses. Mixers. Sifters. Foot and power soap presses. Partial listing. We buy surplus equipment. Stein Equipment Co., 107 - 8th St., Bklyn. 15, N. Y.

**Attention Wax Mfrs.:** We can supply you with A-C Polyethylene 629 and or Epolene "E" emulsions

(Cont'd on Page 188)

### MODERN REBUILT AND GUARANTEED PROCESS MACHINERY



#### Available At Tremendous Savings

Pneumatic Scale, Cartoning Unit consisting of Automatic Carton Feeder, Bottom Sealer, Top Sealer and Wax Liners. Both low and high speed.  
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Package Machinery FA, FA2, FA3, F10 and F10J Wrappers.  
Stokes & Smith Transwraps—Model A and B  
Hudson Sharp Campbell Automatic Cellophane Wrapper.  
Package Machinery Models S and S-2 Soap Wrappers.  
Standard Knapp 429, A-B-C, Ferguson Carton Sealers.

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W & P 3,000 and 3,500 gal. Jacketed Double Arm Mixers.  
Robinson Stainless Steel Double Arm Mixer for dry and viscous materials.  
Mikro 4TH, 3TH, 3W, 2TH, 1SH Pulverizers.  
Resina LC Automatic, Pneumatic and Capem 4-Head Cappers.  
Burt AU-611, CRCO and Standard Knapp Wraparound Labelers.  
Baker Perkins 50 gal., 100 gal. Steel, Stainless Steel S. J. Mixers.  
J. H. Day 450-650 gal. Steam Jacketed Jumbo Mixers.  
H. K. Porter 650 gal. S. J. Double Spiral Mixers.  
R. A. Jones E Automatic and Houchin Semi-Automatic Soap Presses.  
J. H. Day and Robinson 50 up to 10,000 lb. Dry Powder Mixers.  
Stokes 90D Automatic Tube Filler and Closer.  
Stokes and Smith G1, G2, HG84, HG88 Auger Powder Fillers.  
Pony ML, TO, Ermold, World Semi and Automatic Labelers.

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318-322 Lafayette St., New York 12, N. Y. Phone: Canal 6-5334

## For Sale

in 30% solids ready for use in your wax or waxless floor finish formulations. Various phenolic resin emulsions are also available. Dura Wax Company, Inc., McHenry, Illinois.

**For Sale:** By I. E. Newman, 818 W. Superior, Chicago, Ill., CH-3-1425. Mixers. Marion-Munson, sizes 50# to 10,000#. Crutchers—1,000-8,000#; Wrapper Type S; Auto Cutting Table; Bucket Elevators, Mills, Cutters, Crushers, Soap Equipment. Prices on request.

**For Sale:** MRM, 6 spout, vacuum liquid filler; Whirlwind portable screw capper; Karl Kiefer, Visco, 7 spout, rotary filler. San-I-Tank, stainless steel; 50 gallons, jacketed,  $\frac{1}{4}$ HP, explosion proof agitator; Stainless steel kettle, 55 gallons, jacketed. Sell us your surplus equipment. Irving Barcan Co., 249-51 Orient Ave., Jersey City 5, New Jersey.

## Miscellaneous

**Gal Friday:** Seeks position as executive secretary with small firm relieving busy man of many details. Experience includes three years in chemical industry. Address Box No. 537, c/o *Soap*.

### Graham Clayton V. P.

Election of W. Earl Graham as vice-president in charge of sales for Clayton Corp., St. Louis aerosol valve and protective overcaps



W. Earl Graham

makers, was announced recently by Victor Muscat, president of Clayton. Mr. Graham previously had been eastern sales manager for Clayton. He joined the firm in 1957, after having been with Crown Cork & Seal Co., Philadelphia since 1946. Previously he had been with Francis H. Leggett & Co., Landisville, N. J., food packers.

Mr. Graham has been associated with pressure packaging in technical and sales capacities since the early days of aerosols, when Crown's beer can was first adopted as an aerosol container. His activities in the aerosol field included participation in the Aerosol Division of the Chemical Specialties Manufacturers Assn. In that connection he served as chairman of the Scientific Committee of the Aerosol Division of CSMA. He also was vice-chairman of the administrative committee of the Aerosol Division. In his new post Mr.

Graham will continue to make his headquarters in the East. He makes his home in Westfield, N. J.

At the same time it was learned that Mr. Muscat had been elected as president of Clayton earlier this year. He is also president of Victor Metal Products Corp., Chicago, a manufacturer of aluminum aerosol containers.

## Naphthalene Production Up

Production of crude naphthalene in 1959 increased to 425 million pounds from 345 million pounds reported for 1958. This information appears in the U. S. Tariff Commission's preliminary report on production and sales in 1959 of tar and tar crudes, seventh in an annual series on production and sales of synthetic organic chemicals. Sales of naphthalene in 1959 amounted to 267 million pounds valued at \$13,000,000.

Preliminary statistics for 1959 on tar, crude light oil, and crude products such as benzene, toluene, xylene, and creosote oil, derived from coal tar are said to be virtually complete. Copies of the preliminary report are available from the U. S. Tariff Commission, Washington 25, D. C.

## DuBois' 40 Years

(From Page 52)

ment of the executive management, all augur well for 1961, 1971, and thus, so far as DuBois men can see, ad infinitum!

## A LEEBEN COLOR for every purpose . . .

- Optical Bleaches and Brighteners
- Glass and Window Spray Cleaners
- Waxes — Deodorants (Para Blocks and Crystals — Moth Cakes and Crystals) Waterless Hand Cleaners, Automotive, Metal, Furniture and Floor Polishes

- Disinfectants — Insecticides — Deodorants — Metal and Hand Cleaners and Degreasing Agents
- Color Sprays and Upholstery Cleaners
- Sweeping Compounds
- Ammonia (Household) and Quaternary Products

- Gasoline and Diesel Oils
- Tracer and Leak Detectors
- Powdered Detergents and Sanitizers
- Bowl Cleaners ● Anti-Freeze
- Liquid Detergents ● Soap
- Battery Additives

Send for price lists giving color formulation data and shades

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### Colgate Earnings Decline

Colgate-Palmolive Co., New York, recently issued a consolidated report for the quarter ended Sept. 30. Its sales were \$155,582,000, as compared with \$148,256,413 for the same period in 1959. Net income for the quarter was \$6,084,000 and \$7,006,834 in 1959. Earnings per share were 73 cents, as compared with 85 cents for the previous year.

For the nine months ended Sept. 30, 1960, sales were \$451,883,000 and \$440,472,237 in 1959. Net income for 1960 of \$15,798,000 compared with \$18,091,762 in 1959. Earnings per share were \$1.88, down from \$2.22 in 1959.

American Home Products Corp., and subsidiaries report for the nine months ended Sept. 30:

	1960	1959
Share earn.	\$4.80	\$4.63
Net income	\$37,066,424	\$35,497,217
For the six months ended June 30, net income was \$24,313,649, equal to \$3.15 a share, as compared with \$23,238,041 or \$3.03 a share in the same 1959 period.		

Other chemical specialties companies whose earnings for the first nine months were reported recently include:

	1960	1959
Lehn & Fink Products Corp.		
Qtr. sales	\$7,929,854	\$7,462,461
Net income	285,940	251,961
Shr. earn.	78c	75c
Shrs. outsdg.	364,738	334,975
Virginia-Carolina Chemical		
Qtr. sales	\$12,167,992	\$11,482,495
Net income	281,711	147,773*
Share Earn.	1.32	—
Babbitt (B.T.) Inc.		
Qtr. sales	\$5,347,100	\$5,699,375
Net income	317,200	245,500*
Share earn.	\$.25	—

\*Net Loss

— ★ —

### New Synthetic from Verona

"Mugoflor," an aromatic reminiscent of Lily-of-the-Valley, developed by Haarmann & Reimer in Germany, is now being manufactured in the United States by Verona Aromatics, Newark, N. J., it was announced last month.

Said to be stable in soap and nonirritating to the skin, non-coloring and persistent, the new fragrance material belongs to a

series of hitherto unknown organic compounds, according to Verona.

A special grade for use in soap compounds is available under the designation "Mugoflor Savon" and is claimed to blend well with cyclamal. "Mugoflor" is suggested as a starting product for such fragrances as cyclamen, honeysuckle, lilac, linden flower, etc. intended for incorporation in luxury soaps, toiletries, and other specialty products.

— ★ —

### Jefferson Adds Salesmen

Two appointments to the sales staff of Jefferson Chemical Co., Houston, Texas, were announced recently by R. E. Werley, Jr., sales manager.

J. E. Leehey has been assigned to the southern region. Prior to joining Jefferson he was with Filtrol Corp.

D. J. Voss, formerly a sales representative with Food Machinery & Chemical Corp., will be headquartered in the eastern region.

### Mazzoni Marks 300th Plant

G. Mazzoni S.p.A., Busto Arsizio, Italy, recently marked installation of its 300th plant for soap vacuum processing by publication of an illustrated brochure giving details of the firm's operation in the past 15 years. In addition to sales in the period from July 1959 to June 1960 the publication lists Mazzoni customers in 65 countries with a breakdown showing the type of equipment and number of units purchased.

A Mazzoni vacuum drying unit for toilet soap, said to be the largest of its kind in the world with a yield capacity of 3,600 kilos per hour was installed last year at the Cincinnati plant of Andrew Jergens Co. Other U. S. customers include Procter & Gamble Co., Cincinnati, and Duveen Soap Corp., Long Island City, N. Y., who use Mazzoni's automatic continuous cutters, and Armour & Co., with an automatic stamping machine for toilet and laundry soap. Colgate-

## You state the problem—We do the rest



### ARLIC by any other name...

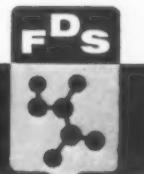
Well, no, for when a client brought us a pint of extra potent garlic juice to be deodorized, we succeeded in masking the odor. He didn't tell us what he wants to use this garlic incognito for, and we tactfully didn't ask, so we can't tell you. Professional ethics, you know.

Counterfeit theatre tickets were a headache to one Snell client — until we fixed him up with a specially-formulated ink containing a chemical tracer. A simple test now makes the counterfeits stick out like a do-it-yourself carpenter's thumb.

Even for us, such problems as these (taken from our house organ, *The Chemical Digest*) are a little out of the ordinary. For more than 40 years we have been solving problems, big and little, plain and fancy. We have a staff of 150 experts and a million dollars worth of facilities to put to work on yours. If you would like to know more about how Snell supplies technological progress without capital investment, ask us to send the *Chemical Digest*. Better still, tell us in confidence about your problem and we'll submit a proposal at no obligation.

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Product Bulletins*

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help you with special problems*



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*and they need  
special fragrance formulations*

Aerosols are *not* just conventional products in pressurized packages! The problems of propellant and container compatibility with active and adjunct ingredients demand special knowledge and experience from inception to final consumer acceptance. If your aerosol product . . . personal, industrial or household . . . does the proper job but is lagging behind competition, perhaps you need an individually tailored fragrance. The FRIES & FRIES Aerosol Laboratories, staffed with experts in this rapidly expanding field, are ready to give your product the fragrance that makes the difference between a *winner* and an *also ran*. Contact your FRIES & FRIES representative . . . now!



Cincinnati, 110 E. 70th St.

New York, 418 E. 91st St.

Palmolive Co. uses Mazzoni equipment in many of its overseas facilities. Thomas Hedley & Co., P&G's British associate, and Unilever Ltd. are among major customers listed in the brochure. The latter operates five continuous toilet soap lines, 29 cutting machines, and 21 vacuum drying units.

### Allied Chem. Ups Three

Three key appointments at the Morristown, N. J., research laboratory of Allied Chemical's General Chemical Division, were announced recently by John C. Fedoruk, technical director.

Otto G. Direnga, director of planning research for the past two years, has been named director of research administration. Walter G. King, Jr. succeeds him as director of planning research. Mr. King previously served as assistant director, a post being assumed by Charles D. Boyer, Jr., formerly manager of engineering research.

### Hooker Denies FTC Charges

Hooker Chemical Corp., 666 Fifth Ave., New York, has denied Federal Trade Commission charges that it illegally acquired Durez Plastics and Chemicals, Inc. North Tonawanda, N. Y., and certain assets of Monsanto Chemical Co., St. Louis.

The company has requested dismissal of the FTC's complaint of July 8, which alleged the acquisitions violate section 7 of the Clayton Act, in that they may substantially lessen competition or tend to create a monopoly in the production and sale of phenolic molding materials.

### Brannick to Schenectady

The appointment of George Brannick, Jr. as a research chemist for Schenectady (N. Y.) Varnish Co., it was announced recently by Clinton A. Braidwood, vice president—research and manufacturing.

Mr. Brannick directs re-

search and development in resins for bonded and coated abrasives. He was formerly affiliated with Varcum Chemicals, division of Reichhold Chemicals, Inc. and Sterling Grinding Wheel Co., in production and research.

### Low Foaming Floor Solution

"Q-Kleen," a low foaming liquid floor scrubbing solution for use with automatic scrubbing and vacuuming machines, was recently introduced by Peck's Products Co., St. Louis, Mo.

The new product is said to enable wet pick-up and to dispense with rinsing. It is claimed to have rapid action and good soil suspending power. It will remove rubber burns and at higher dilutions will strip wax accumulations. It is claimed to be harmless to all floor surfaces and to internal and external parts of floor machines. "Q-Kleen" has a balanced pH factor, and its detergency is not affected by water hardness.

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Portable for spraying chlorine solutions and related chemicals. Connect to air line for operation.



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## COMING MEETINGS

American Oil Chemists' Society annual meeting, Sheraton-Jefferson Hotel, St. Louis, May 1-3, 1961; fall meeting, Pick-Congress Hotel, Chicago, Oct. 30-Nov. 1, 1961.

Association of American Soap & Glycerine Producers, 34th annual convention, Waldorf-Astoria Hotel, New York, Jan. 25, 26 and 27, 1961.

Chemical Specialties Manufacturers Association, 47th annual meeting, Hollywood Beach Hotel, Hollywood, Fla., Dec. 3-9; 47th midyear meeting, Drake Hotel, Chicago, May 15-17, 1961.

Drug, Chemical and Allied Trades Association, annual meeting, Pocono Manor Inn, Pocono Manor, Pa., Sept. 14-17, 1961.

Entomological Society of America, Southeastern Branch, 35th annual meeting, Admiral Semmes Hotel, Mobile, Ala., Jan. 23-25, 1961.

National Packaging Exposition and Conference, Exposition Center, Chicago, April 10-14, 1961.

National Sanitary Supply Assn., 38th annual convention, Conrad Hilton Hotel, Chicago, April 23-26, 1961.

New York Premium Show and Premium Advertising Conference, New York Coliseum, Sept. 25-28, 1961.

Northwestern Weed Control Conference, 15th annual, Hotel New Yorker, New York, Jan. 4-6, 1961.

Packaging Machinery Manufacturers Institute, (PMMI) fourth annual show, Cobo Hall, Detroit, Nov. 7-10, 1961.

Plant Maintenance & Engineering Show, 12th annual, International Amphitheatre, Chicago, Jan. 23-26. Conference, Jan. 23-25. Palmer House and Amphitheatre.

Society of Cosmetic Chemists, annual meeting, Biltmore Hotel, New York, Nov. 29.

Synthetic Organic Chemical Manufacturers Association, monthly luncheon meeting, Roosevelt Hotel, New York, Nov. 10; annual meeting and annual dinner, Dec. 8.

Toilet Goods Association, 26th annual meeting, Waldorf-Astoria Hotel, New York, May 9-11, 1961.

Toilet Goods Association, Scientific Section, Waldorf-Astoria Hotel, New York, Nov. 30.



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# tale ends

**F**OONOTE to the coupon misredemption uproar: White King Soap Co., Los Angeles, recently announced that it was discontinuing coupons because of misredemption. From other sources we hear appeals by both P&G and Lever for "fair play" among consumers and grocers are bearing some fruit. When Grocery Manufacturers Assn. met in New York last month the whole subject was discussed quite thoroughly.

\* \* \* \* \*

Perfumes usually carry exotic names, all about l'amour and such. But now we've run across a new one. It's just called "Fresh & Clean 3589." What the 3589 stands for, we don't know. But the odor is designed for detergents, deodorant sprays, insecticides, hand cleaner, wax, glue, floor oil and a lot of other chemical specialties, says the maker, Aromatic Products, Inc., New York. It sells for two bucks per pound and it smells just like he says, fresh and clean. Novel name.

\* \* \* \* \*

A man of parts is Earl J. Reddert, director of engineering for Colgate-Palmolive Co., New York, who retired recently after a 35-year career which saw him supervise construction projects for the company on three continents. He joined the Colgate organization by way of Peet Brothers Co. as an engineer at the Kansas City plant in 1925. A year later he was named plant engineer of the Berkeley, Calif., plant, and following the merger which united Peet Brothers, Palmolive Co. and Colgate & Co., he became superintendent of the Milwaukee plant in 1931. In addition to directing rebuilding programs of plants in Mexico and France during the 1930's, Mr. Reddert also headed Colgate-Palmolive construction projects in Cuba, Venezuela, Columbia, England, and Italy, as well as doing such jobs in the U. S. A resident of Madison, N. J., since 1937 he was elected mayor of that community last November after serving on the Madison Planning Board and on the Borough Council. He was on the Madison Board of Education for 11 years, during six of which he was president. Whew!

\* \* \* \* \*

Mink coats have always attracted attention. Now, mink oil, the fat of the little fellows whose pelts supply these lovely coats, is attracting more attention in France as a cosmetic ingredient. In the U. S., a couple of cosmetic creams came out back in 1955-56 containing mink oil. In fact a patent was issued and assigned to the Minkolein Co. of New Jersey in 1956 for a cosmetic containing ranch mink oil. Sort of

reminds us of the old days when bear grease and snake oil were sold for medicinal and cosmetic purposes and were supposed to have great healing and beautifying properties.

\* \* \* \* \*

No end of new products: Colgate's testing "Choice" soap. Lever is doing the same with "Vim," a new blue tablet form detergent, comparable to P&G's "Salvo." A whole raft of new products are coming out of Cincinnati, viz. "Downey," a new fabric softener; "Mr. Clean" in 44-oz. glass jugs; "Tide" in water-soluble packets, and "Gain," heavy duty detergent, in a plastic bottle. The new package size of "Mr. Clean" is being test marketed in Milwaukee, while Jacksonville, Fla., shoppers are getting a first-look at the new method of dispensing "Tide."

\* \* \* \* \*

The St. Louis population explosion continues unabated. Little Jim and June Varley announced the arrival on Oct. 6 of June Curran Varley, thus bringing the total of Jimmy Varley's up to eight, five girls and three boys. Jimmy tried to pass this onto us as news, but we had to beg to differ with him. News, in our definition, is the unusual, the departure from the normal, or something. Anyway Jim, the two Junes and their milk company are doing fine.

\* \* \* \* \*

Ira Wolfson has done it again! The aerosol idea genius, who happens

to be president of Pace, Inc., Wilmington, Del., private label and contract packaging firm, has just introduced a new pressure packed product. Ira, you may remember was responsible for "Lady Chatterley's Instant Sex." Now he's the father of an aerosol belly button polish, yelet "Instant Mr. Gleem—U. S. Naval Polish." Ira tried to enter the stuff in the CSMA's aerosol packaging contest but it was disqualified on a technicality—the judges couldn't determine in which category the product belonged.

\* \* \* \* \*

Bob Allen, executive vice-president of Wheaton Plastic-Cote Corp., Millville, N. J., and his wife were all set to enjoy the very delightful meeting of the Canadian Chemical Specialties Manufacturers Assn. in Montreal, last month. But fate would have it otherwise. In the middle of the first night of the meeting Mrs. Allen suffered an acute attack of appendicitis and had to be rushed off to a Montreal hospital to be operated on. Following the meeting Bob had to drive the family car back to the States and then turn around and fly back to Canada to return by air with Mrs. Allen.

\* \* \* \* \*

A real oldtimer, Dodge & Olcott, Inc., New York, oldest outfit in the U. S. producing and selling essential oils, aromatic chemicals, flavors, perfume bases, oleresins and seasoning, celebrated its 162nd anniversary last month. D&O expects to be in new quarters in the old National Biscuit Co. building on Ninth Ave. by the end of the year.

George W. Fiero,  
Esso Standard Division,  
Humble Oil & Refining Co.,  
New York, president  
of the Chemical  
Specialties  
Manufacturers  
Assn., examines  
goods of suit worn  
by A. A. Mulliken,  
secretary of CM-  
SA. Gag photo  
was taken during  
recent CSMA  
Board of Governors  
meeting in  
Wilmington, Del.,  
Oct. 3-4.



